

JANUARY 2013

**December 2012 Groundwater  
Monitoring Report**  
Lincoln County Class IV Asbestos Landfill  
Lincoln County, Montana

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## Acronyms

AMSL	above mean sea level
C	degrees Celsius
CDM	Camp Dresser & McKee, Inc.
COD	chemical oxygen demand
CRQL	contract required quantitation limit
DEQ	Montana Department of Environmental Quality
DRO	diesel range organics
DTW	depth to groundwater surface
EPH	extractable petroleum hydrocarbon method
GRO	gasoline range organics
GW	groundwater
J	The analyte was positively identified, however the concentration is an estimated value.
MDL	method detection limit
mg/L	milligrams per liter
MW	monitoring well
Non Deg	Montana DEQ nondegradation rules (17.30.701 et seq. Administrative Rules of Montana (ARM))
ND	Non Detect- the result was less than the RDL
NM	not measured
NTU	nephelometric turbidity units
PBS&J	Post, Buckley, Schuh & Jernigan, Inc.
RDL	reported detection limit
RDP	relative percent difference
QAPP	quality assurance project plan
SAP	sampling and analysis plan
SOP	standard operating procedures
SU	standard units
TOC	top of well casing
U	The analyte was tested for, but not detected; the associated numerical value is at or below the reporting limit.
VOC	volatile organic compounds
VPH	volatile petroleum hydrocarbon method
µg/L	micrograms per liter
µS/cm	microsiemens per centimeter

# Section 1

## Introduction

The following is a summary of the groundwater monitoring data resulting from samples collected at the Lincoln County Class IV Asbestos Landfill (Class IV Asbestos Landfill) on December 18 and December 20, 2012. The landfill is located in the NE ¼ of Section 28, Township 31 North, Range 31 West in Lincoln County, adjacent to the Lincoln County Class II Landfill (Class II Landfill facility); approximately 2 miles north-northwest of Libby, Montana (see Figure 1-1). Groundwater monitoring is conducted at the Class II Landfill on a semi-annual basis according to permit requirements from the Montana Department of Environmental Quality (DEQ) Solid Waste Program. Groundwater monitoring is conducted at the Class IV Asbestos Landfill on a semi-annual basis per the Lincoln County Class IV Asbestos Landfill Operations Plan (Operations Plan) dated February 2008 (CDM, 2008).

Monitoring wells CDM-MW7 and CDM-MW8 were installed at the Class IV Asbestos Landfill by CDM in 2002. Monitoring wells MW-2, MW-3, and MW-4 were installed between 1990 and 1993 at the adjacent Class II Landfill Facility, located immediately east of the Class IV Asbestos Landfill. CDM-MW7 is upgradient of the Class IV facility and CDM-MW8 is cross-gradient with both being upgradient of the Class II landfill. MW-3 is downgradient of the Class IV landfill and cross-gradient of the Class II landfill. MW-2 and MW-4 are downgradient of the Class II landfill (see Figure 2-1).

Data from CDM-MW7 and CDM-MW8 consist of depth to groundwater measurements, field measurements of groundwater quality parameters, and laboratory analytical results from groundwater samples collected by CDM Smith on December 18 and 20, 2012. Data for CDM-MW7 and CDM-MW8 were collected following sampling and measurement protocols described in the Lincoln County Class IV Asbestos Landfill Operation Plan (CDM 2008). The depth to groundwater for all wells, including the county wells, were measured on January 16, 2013 because the county wells could not be accessed during the CDM Smith water quality sampling event due to weather and road conditions. An electronic sounder was used to measure the depth to groundwater at all wells, as required by the Lincoln County Class IV Asbestos Landfill Operation Plan for wells CDM-MW7 and CDM-MW8, and the Lincoln County Class II Sampling and Analysis Plan (SAP) for wells MW-2, MW-3, and MW-4.



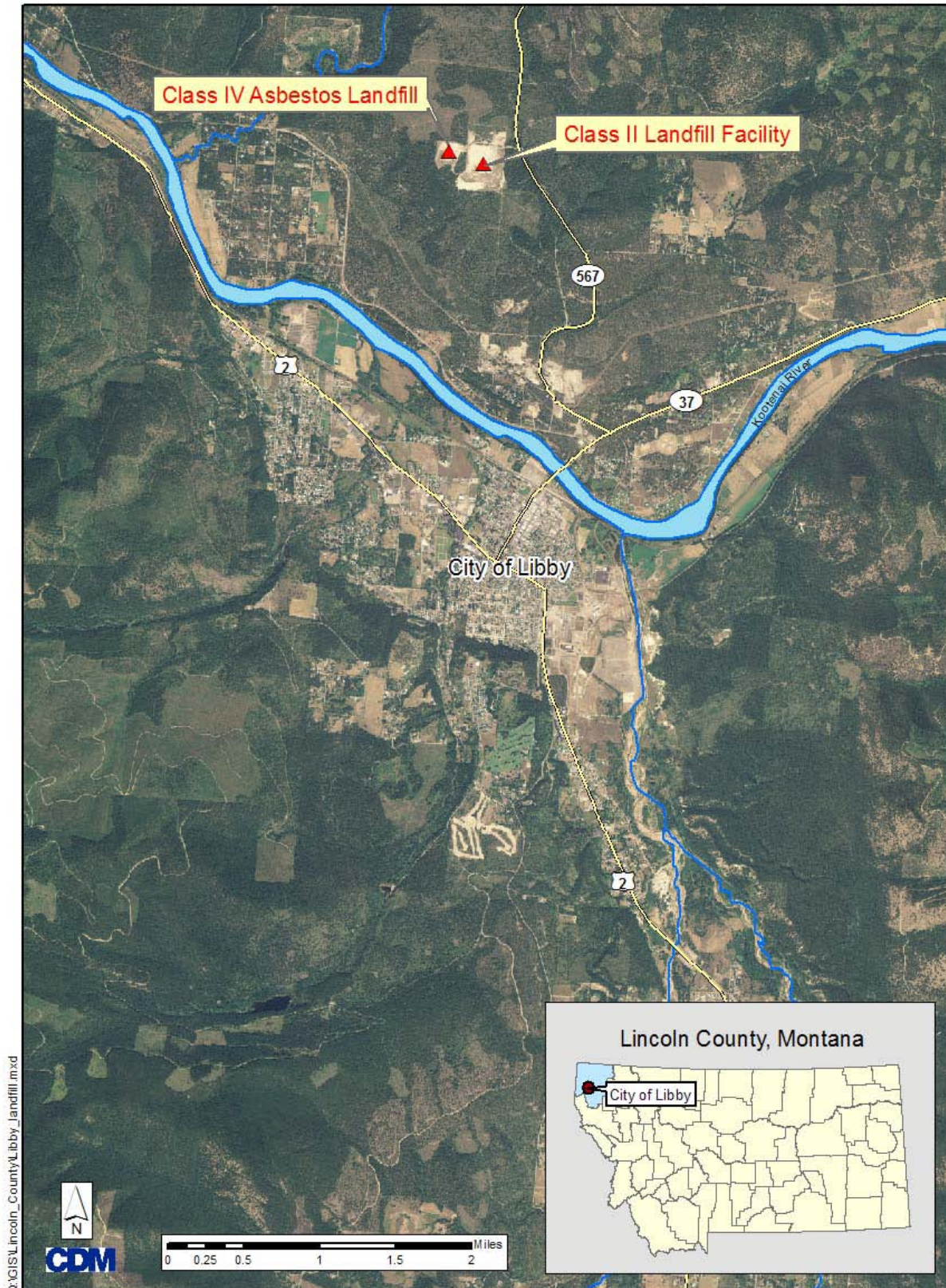


Figure 1-1 Libby Landfill Location.

## Section 2

### Field Activities

#### 2.1 Water Level Measurements

The depths to groundwater in CDM-MW7, CDM-MW8, MW-3, and MW-4 were measured by CDM Smith on January 16, 2013 (Table 2-1).

**Table 2-1 Depth to Groundwater and Groundwater Elevations, January 16, 2013.  
Lincoln County Class II Landfill and Class IV Asbestos Landfill**

Monitoring Well	TOC Elevation (feet amsl)	DTW (feet below TOC)	GW Elevation (feet amsl)
CDM-MW7	2422.10	220.10	2202.00
CDM-MW8	2414.7	227.09	2187.61
MW-2	2313.02	165.83	2147.19
MW-3	2343.07	203.47	2139.6
MW-4	2294.52	156.96	2137.56

Note:

TOC = top of well casing

GW = Groundwater

DTW = depth to groundwater surface

NM = not measured – new pump housing

amsl = above mean sea level

#### 2.2 Groundwater Sample Collection

Groundwater samples were collected from CDM-MW7 and CDM-MW8 following CDM Smith standard operating procedures (SOP) for purging and groundwater sample collection. Purging and sample collection were completed using a Grundfos™ submersible pump. After collecting samples from CDM-MW7 and during purging activities for CDM-MW8, the Grundfos pump malfunctioned and could not complete the sampling activities; therefore, CDM-MW8 and its duplicate sample were collected on December 20, 2012 while CDM-MW7 samples were collected on December 18, 2012. Samples were analyzed for all DEQ Solid Waste Program ARM 17.50.708 (16) (b) Table 1 analytes, including volatile organic compounds (VOC), chloride, total cyanide, nitrate/nitrite as nitrogen, sulfate, dissolved metals, chemical oxygen demand (COD), Volatile Petroleum Hydrocarbons (VPH), and Extractable Petroleum Hydrocarbons (EPH). All samples were submitted under chain-of-custody protocol and analyzed by CompuChem Laboratories in Cary, North Carolina. Additionally, groundwater samples were analyzed for asbestos by EMSL Analytical, Inc. in Libby, Montana.

Quality control samples consisted of a trip blank, a field blank, and one duplicate field sample. The validated laboratory analytical sample results are provided in Appendix B. Field logs from CDM Smith are included in Appendix C.

A potentiometric surface map was constructed using the groundwater level measurements collected on January 16, 2013 (Figure 2-1). Due to the poor site conditions in December, several of the wells in the Class II landfill were not able to be accessed and water levels were measured during the County's

sampling event on January 16, 2013. The potentiometric surface shows that the groundwater flow direction is to the southeast, which is consistent with previous reports.

## 2.3 Field Water Quality Parameters

Groundwater quality parameters were measured during monitoring well purging of CDM-MW7 and CDM-MW8 with a calibrated YSI 556 Multi-parameter water quality meter. Water quality parameters are presented in Table 2-2 and include pH, specific conductance, turbidity, dissolved oxygen, and temperature. Field parameter and static water levels measured during purging prior to sampling are included in Appendix C – Water Sampling Logs. Parameter in both wells stabilized before sampling.

**Table 2-2 Water Quality Monitoring Parameters, December 18 and 20, 2012.**

**Lincoln County Class IV Asbestos Landfill**

Monitoring Well	pH (SU)	Specific Conductance (μS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)
CDM-MW7	7.87	312	5.24	0.97	12.2
CDM-MW8	7.69	412	9.83	3.73	16.9

Note:

SU = standard units

μS/cm = microsiemens per centimeter

NTU = nephelometric turbidity unit

mg/L = milligram per liter

°C = degree Celsius



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K:\Libby Landfill GW Mont Report\Fig2.1 - December 2012.dwg    SAVER:1/18/13 BY:MANZHAUSENK

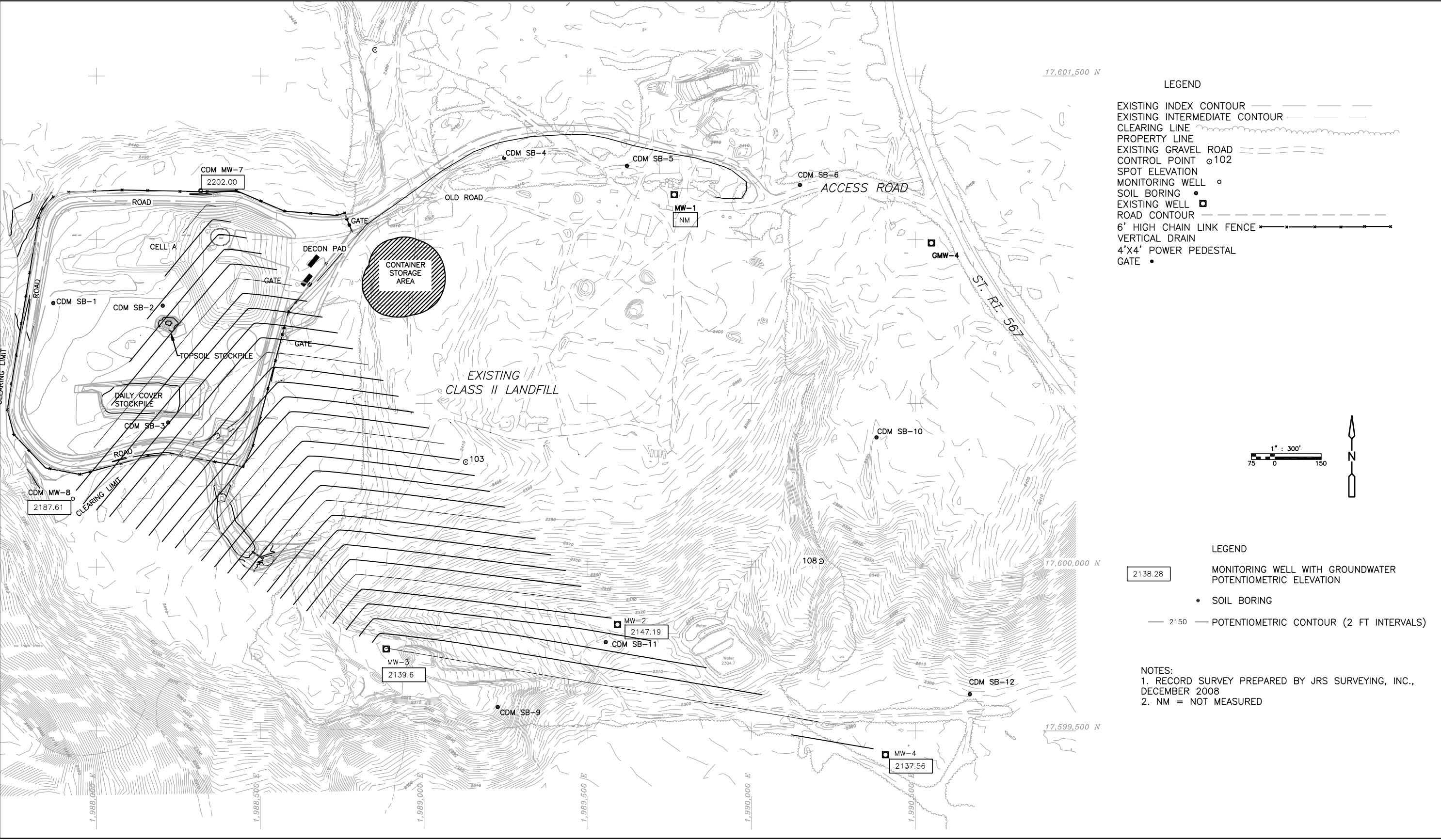


Figure No. 2-1  
GROUNDWATER POTENTIOMETRIC SURFACE, JANUARY 16, 2013



## Section 3

# Analytical Results

### 3.1 Laboratory Analytical Results

Table 3-1 lists laboratory analytical results for monitoring wells CDM-MW7 (sample 1R-44817) and CDM-MW8 (sample 1R-45180) and corresponding Montana Circular DEQ-7 water quality standards. Analytical results for these groundwater samples and associated quality control samples are located in Appendix B. Quality control samples include a field duplicate of CDM-MW8 (sample 1R-44819), two trip blanks (sample TB-1 and TB-2), and a field blank (sample 1R-44818). Table 3-1 lists the groundwater quality standard as “nondegradation” (Non Deg) for parameters for which human health standards are not listed in Montana Circular DEQ-7.

#### *Non-Metals*

Non-metals detected at or above the laboratory reporting limits but below the Montana Circular DEQ-7 water quality standard include nitrate and sulfate. Cyanide was not detected in either groundwater sample, with a reporting limit of 0.010 mg/L.

The samples from both locations were also analyzed for asbestos by U.S. Environmental Protection Agency Method 100.2. Asbestos was not detected in the samples.

#### *Metals*

Groundwater analyses for metals at monitoring wells MW-2, MW-3, and MW-4 were eliminated after the December 2003 sampling event per DEQ’s direction (based on the long record of generally below detection metal concentrations), so no comparisons to metals results from the Class II Landfill can be made.

There were no metals detected in CDM-MW7 and CDM-MW8 at or above the laboratory reporting limit, except for arsenic in CDM-MW7 during the December 2012 sampling event.

#### *Volatile Organic Compounds*

Acetone, chloromethane and toluene were reported in monitoring well CDM-MW8. Acetone results were qualified as undetected, “U”, because acetone was reported in the field blank at 44 µg/L, and in one trip blank at 3.0 µg/L.

**Table 3-1**  
**Groundwater Analytical Results, December 18 and 20, 2012.**  
**Lincoln County Class IV Asbestos Landfill**

Parameter	Monitoring Well CDM-MW7 (µg/L)	Monitoring Well CDM-MW8 (µg/L)	RL (µg/L)	MT Groundwater Quality Standards (µg/L)
<b>Non-Metals</b>				
Asbestos	ND	ND	0.17 MFL	7,000,000 fibers/L (fibers>10 microns)
Chemical Oxygen Demand	ND	ND	17,000	Non Deg
Chloride	ND	ND	1,000	4,000
Cyanide, Total	ND	ND	10	200
Nitrate/Nitrite as N	ND	ND	50	10,000
Sulfate	5,410	6,090	1,000	250,000
Gasoline Range Organics	ND	ND	30	Non Deg (DEQ uses volatile petroleum hydrocarbon [VPH] method)
Diesel Range Organics	ND	ND	500	Non Deg (DEQ uses extractable petroleum hydrocarbon [EPH] method)
<b>Metals</b>				
Antimony	ND	ND	2.0	6
Arsenic	ND	ND	1.0	10
Barium	ND	ND	200	2,000
Beryllium	ND	ND	1.0	4
Cadmium	ND	ND	1.0	5
Chromium	ND	ND	10	100
Cobalt	ND	ND	20	Non Deg
Copper	ND	ND	5.0	1,300
Iron	ND	ND	200	300
Lead	ND	ND	1.0	15
Mercury	ND	ND	0.200	2
Nickel	ND	ND	10	100
Selenium	ND	ND	5.0	50
Silver	ND	ND	5.0	100
Thallium	ND	ND	1.0	2
Vanadium	ND	ND	20	Non Deg
Zinc	ND	ND	30	2,000
<b>VOCs</b>				
Acetone	ND	6.9	2.5	Non Deg
Acrylonitrile	ND	ND	5.0	0.51
Benzene	ND	ND	0.50	5
Bromochloromethane	ND	ND	0.50	Non Deg
Bromodichloromethane	ND	ND	0.50	10
Bromoform	ND	ND	0.50	80
Bromomethane	ND	ND	0.50	10
Carbon disulfide	ND	ND	0.50	Non Deg
Carbon tetrachloride	ND	ND	0.50	3

Parameter	Monitoring Well CDM-MW7 (µg/L)	Monitoring Well CDM-MW8 (µg/L)	RL (µg/L)	MT Groundwater Quality Standards (µg/L)
Chlorobenzene	ND	ND	0.50	100
Chlorodibromomethane	ND	ND	0.50	4
Chloroethane	ND	ND	0.50	Non Deg
Chloroform	ND	ND	0.50	70
Chloromethane	ND	0.83	0.50	30
1, 2-Dibromo-3- Chloropropane (DBCP)	ND	ND	0.50	0.2
1, 2-Dibromoethane (EDB)	ND	ND	0.50	0.004
Dibromomethane	ND	ND	0.50	Non Deg
1, 2-Dichlorobenzene	ND	ND	0.50	600
1, 4-Dichlorobenzene	ND	ND	0.50	75
trans-1, 4-Dichloro-2- butene	ND	ND	2.0	Non Deg
Dichlorodifluoromethane	ND	ND	0.50	1,000
1, 1-Dichloroethane	ND	ND	0.50	0.0031
1, 2-Dichloroethane	ND	ND	0.50	4
1, 1-Dichloroethene	ND	ND	0.50	0.6
cis-1, 2-Dichloroethene	ND	ND	0.50	70
trans-1, 2-Dichloroethene	ND	ND	0.50	100
1, 2-Dichloropropane	ND	ND	0.50	5
cis-1, 3-Dichloropropene	ND	ND	0.50	4
trans-1, 3- Dichloropropene	ND	ND	0.50	2
Ethylbenzene	ND	ND	0.50	700
2-Hexanone (Methyl butyl ketone)	ND	ND	2.5	Non Deg
Iodomethane	ND	ND	0.50	Non Deg
4-Methyl-2-pentanone (Methyl isobutyl ketone)	ND	ND	2.5	Non Deg
Methylene chloride	ND	ND	0.50	5
Styrene	ND	ND	0.50	100
1, 1, 1, 2- Tetrachloroethane	ND	ND	0.50	Non Deg
1, 1, 2, 2- Tetrachloroethane	ND	ND	0.50	2
Tetrachloroethene	ND	ND	0.50	5
Toluene	ND	0.55	0.50	1,000
1, 1, 1-Trichloroethane	ND	ND	0.50	200
1, 1, 2-Trichloroethane	ND	ND	0.50	3
Trichloroethene	ND	ND	0.50	5
Trichlorofluoromethane	ND	ND	0.50	10,000
1, 2, 3-Trichloropropane	ND	ND	0.50	Non Deg
Vinyl acetate	ND	ND	1.0	Non Deg
Vinyl chloride	ND	ND	0.50	0.2
Xylenes	ND	ND	0.50	10,000

Note: **Non Deg** refers to Montana DEQ nondegradation rules (17.30.701 et seq. Administrative Rules of Montana (ARM)). The purpose of the rule is to protect high quality state ground and surface waters, which are those waters whose quality is higher than the established standards.

The Montana Circular DEQ-7 water quality standards for acrylonitrile and 1, 2-Dibromoethane are below the laboratory reporting limit. The water quality standards for these compounds are lower than standard laboratory limits, and the required reporting value listed in the circular are also greater than the water quality standard.

Notes:

ND = Not Detected. Result was less than the laboratory reporting limit.

MFL = million fibers/Liter

RL = reporting limit

U = undetected at the concentration listed

## 3.2 Quality Assurance

Holding times, surrogate recoveries, and laboratory duplicate analysis were acceptable for all samples. Data were evaluated in accordance with the method requirements and the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (EPA 2008) and the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review (EPA 2010). The analysis of the samples was found to be compliant with the requirements of both the method and the QAPP. All data was found to be usable. The data evaluation report and corresponding data is included in Appendix B.

One field blank (sample 1R-44818) was prepared in the field by pouring distilled water into preserved sampling container during this sampling event. Acetone was reported in the field blank, at 44 µg/L. Acetone was reported in the samples at concentrations greater than the reporting limit but less than the level reported in the field blank. Acetone results have been qualified in the samples as undetected at the level reported.

### *Trip Blanks*

Two trip blanks were collected for this sampling event. The trip blanks were only tested for VOCs. Acetone was reported in one trip blank at 3.0 µg/L.

### *Field Blank*

One field blank was collected for this sampling event to assess the decontamination procedure. Chemical Oxygen Demand (COD) was reported in all samples, none higher than the field blank at 17000 µg/L. It does not seem likely that the decontamination procedure introduced organics to the organic free/analyte free decontamination water. As COD falls under the non-degradation rules, the results for the samples were reported as not detected at the level reported in the field blank, 17,000 µg/L, instead of the standard reporting limit of 10,000 µg/L.

### *Field Duplicate Samples*

Field duplicates are collected to assess field and laboratory precision. One field duplicate sample was collected from monitoring well CDM-MW8 (sample 1R-44819) and submitted for analysis with the natural samples. Detected results, above the laboratory reporting limits, are compared to the parent sample in Table 3-2.



**Table 3-2 CDM-MW8 Duplicate Sample Comparison, December 2012.**  
**Lincoln County Class IV Asbestos Landfill**

Parameter	CDM-MW8	Duplicate	RL	RPD	Control Limit
Non-Metal (ug/L)					
Acetone	6.9U	7.6U	2.5	NA	20 RPD
Chloromethane	0.83	0.91	0.50	NA	20 RPD
Toluene	0.61	0.61	0.50	NA	20 RPD
Sulfate	6,090	6,060	1,000	0.5%	20 RPD

Note:

RL = Reporting Limit

RPD = Relative Percent Difference

NA= not applicable, concentrations less than 5 times the RL

Field duplicate data quality objectives are not specified in the Lincoln County Class IV Asbestos Landfill Operations Plan. Laboratory duplicate criteria, according to the EPA's Contract Laboratory Program, is  $\pm 20$  relative percent difference when the concentration is greater than five times the reporting limit. The reporting limit is used as the criteria for the difference between the two results if either value is  $< 5x$  the reporting limit. All duplicate comparisons met this criterion.

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## Section 4

### Deviations from SAP

There were no deviations from the Sampling and Analysis Plan reported during the December 2012 sampling event.

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## Section 5

# Data Analysis

### 5.1 Intra-well Trends

#### *Groundwater Levels*

A summary chart of historical groundwater elevations graphed on Chart 1- Appendix A does not show any trends.

Data from the December 2012 sampling event indicate that groundwater elevations decreased slightly in CDM-MW7, CDM-MW8, MW-3 and MW-4 when compared to elevations from the June 2012 sampling event. Monitoring well MW-2 was not measured during the June 2012 sampling event (See Chart 1.)

#### *Field Parameters*

Field parameters (pH, specific conductance, dissolved oxygen, and temperature) were measured for CDM-MW7 and CDM-MW8 during the field activities by CDM Smith. No trends could be identified for pH and specific conductance. Temperature measurements at CDM-MW8 seem higher than expected which could be attributed to the difficulties encountered in the field during the sampling activities. The pump appears to be at the limit of its capacity and heading the water as it pumps it to the surface (See Charts 2, 3, 4 and 5.) EPA is in the process to evaluate the installation of dedicated pumps to improve efficiency. Dissolved oxygen seems to be decreasing when only comparing the winter or summer results. Charts showing the collected field parameters are included in Appendix A.

#### *Dissolved Metals*

There were no metals above the DEQ-7 Standard during this sampling event; therefore, no trend evaluation is presented.

#### *Detected Non-Metals*

There were no parameters that consistently had detectable results over multiple sampling events; therefore, no trend evaluation is presented.

### 5.2 Inter-well Comparison

Water levels and field parameters were compared in both monitoring wells. Dissolved oxygen was lower in CDM-MW7 compared to CDM-MW8. Temperature in CDM-MW8 has increased in the December 2011 and June 2012 events but slightly decrease during this event when compared to CDM-MW7 which is decreasing.

The December 2012 groundwater flow direction at the Class IV Asbestos Landfill was evaluated using depth to groundwater measurements from five monitoring wells. The groundwater flow direction is shown in Figure 2-1 and is generally to the southerly direction. The interpreted groundwater flow direction is consistent with previous reports.

## 5.3 Comparison to Standards

During this sampling event, no exceedances were reported for dissolved metals, non-metals, or VOCs (See Table 3-2).

## 5.4 Summary

Results of the December 2012 sampling event showed no exceedances for dissolved metals, non-metals or VOCs when compared to the Montana Circular DEQ-7 water quality standards. In addition, no trends were identified for the evaluated parameters in the last five sampling events.

## Section 6

### References

Camp Dresser & McKee, Inc. 2008. *Draft Revised Lincoln County Class IV Asbestos Landfill Operations Plan*. February.

CDM, Inc. 2012. *June 2012 Groundwater Monitoring Report, Lincoln County Class IV Asbestos Landfill, Lincoln County, Montana*. August.

EPA. 2010. *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review*. EPA-540/R-10/011. January.

EPA. 2008. *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review*. EPA-540/R-08/01. June.

Montana Department of Environmental Quality. 2006. *Circular DEQ-7, Montana Numeric Water Quality Standards*. February.

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# Appendix A

Chart 1 - Libby Asbestos Class IV Landfill Groundwater Elevations

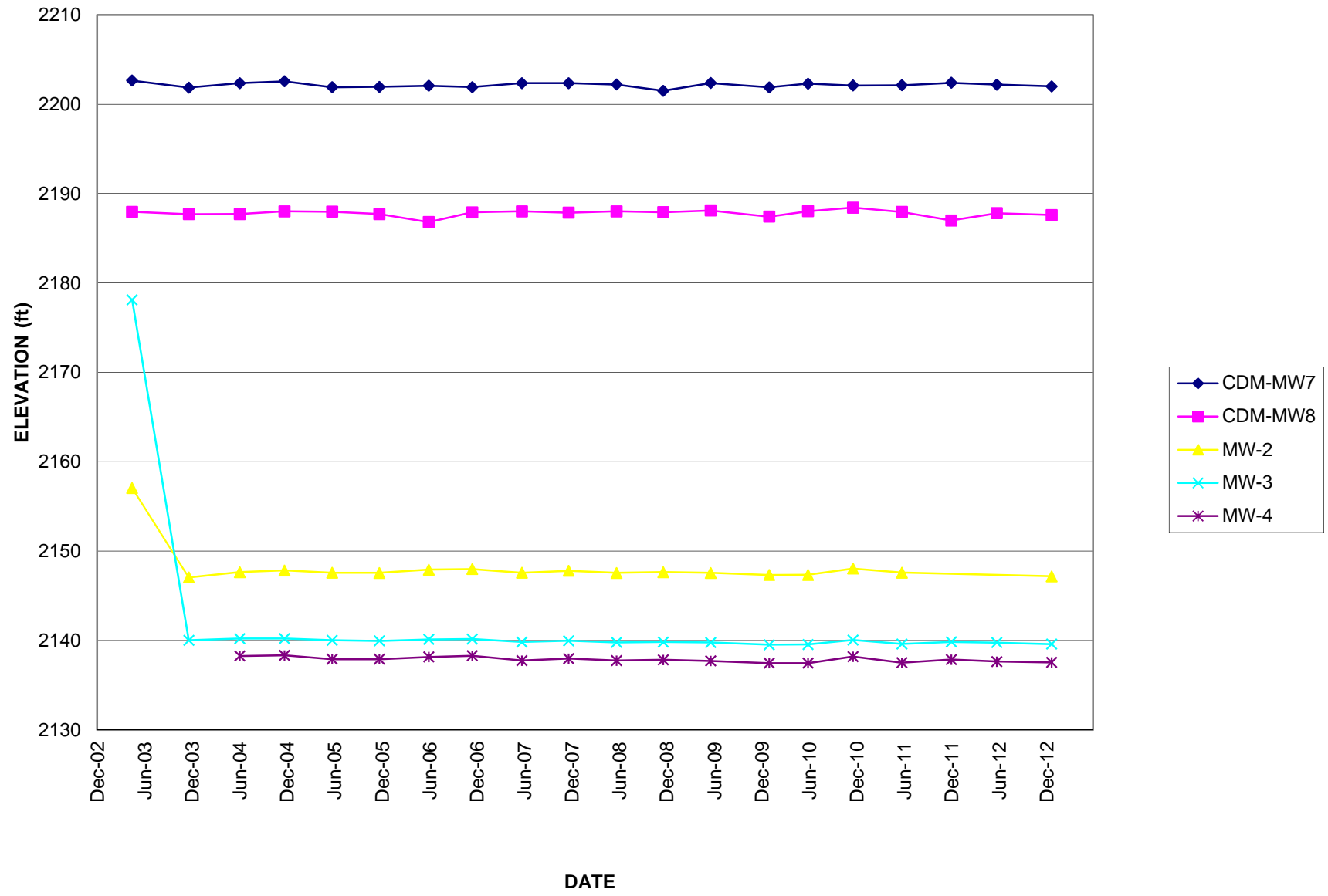
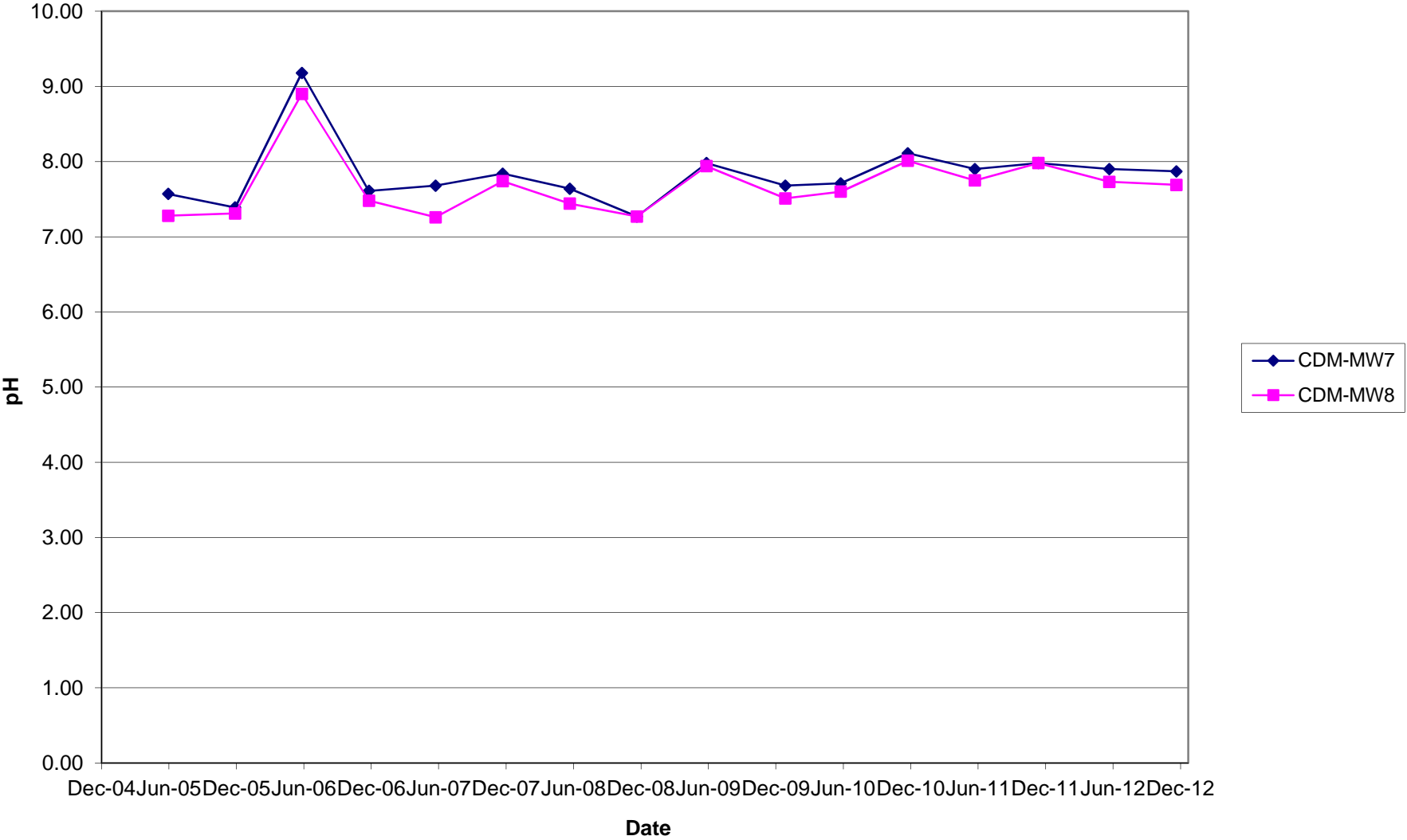
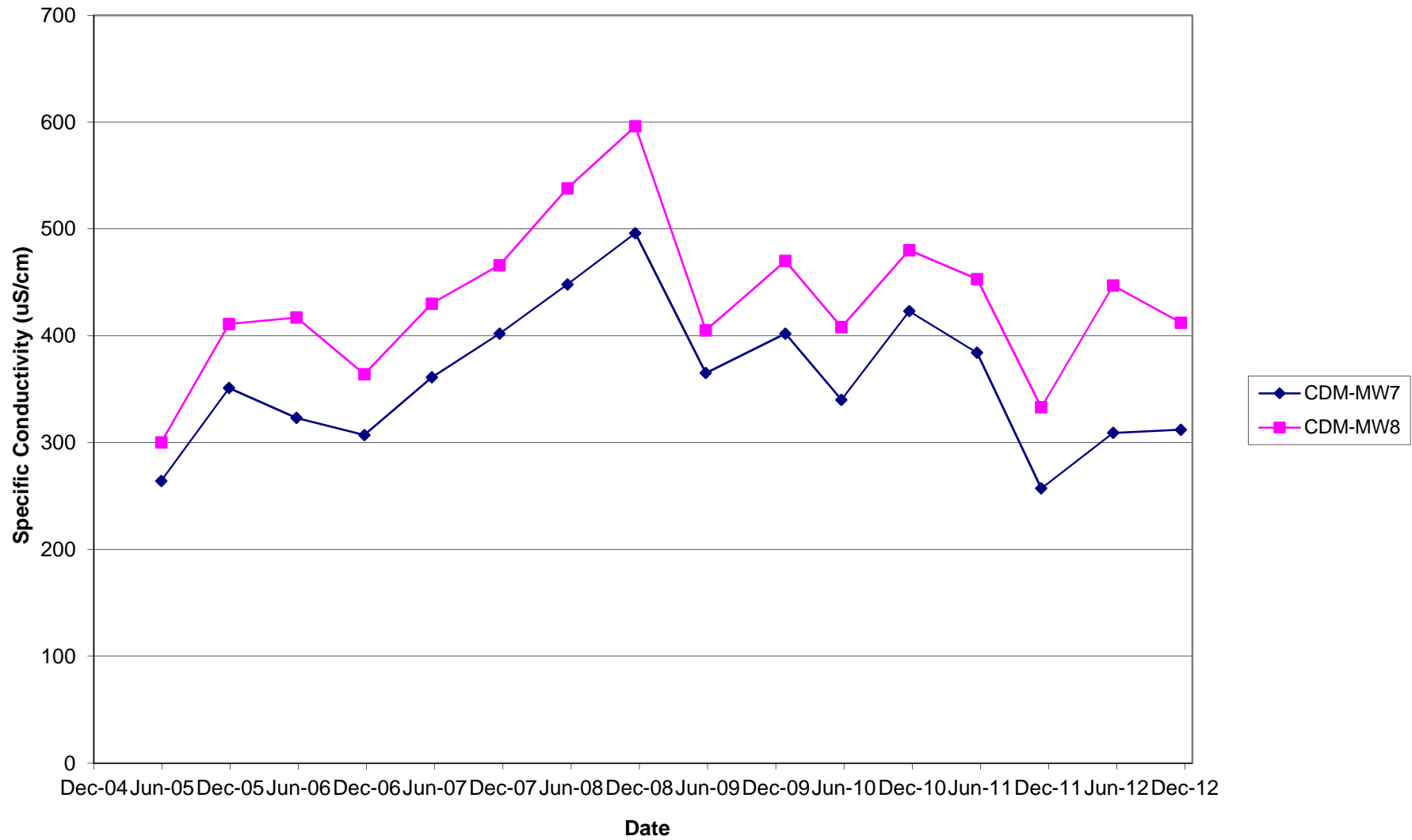


Chart 2 - Libby Asbestos Class IV Landfill - pH

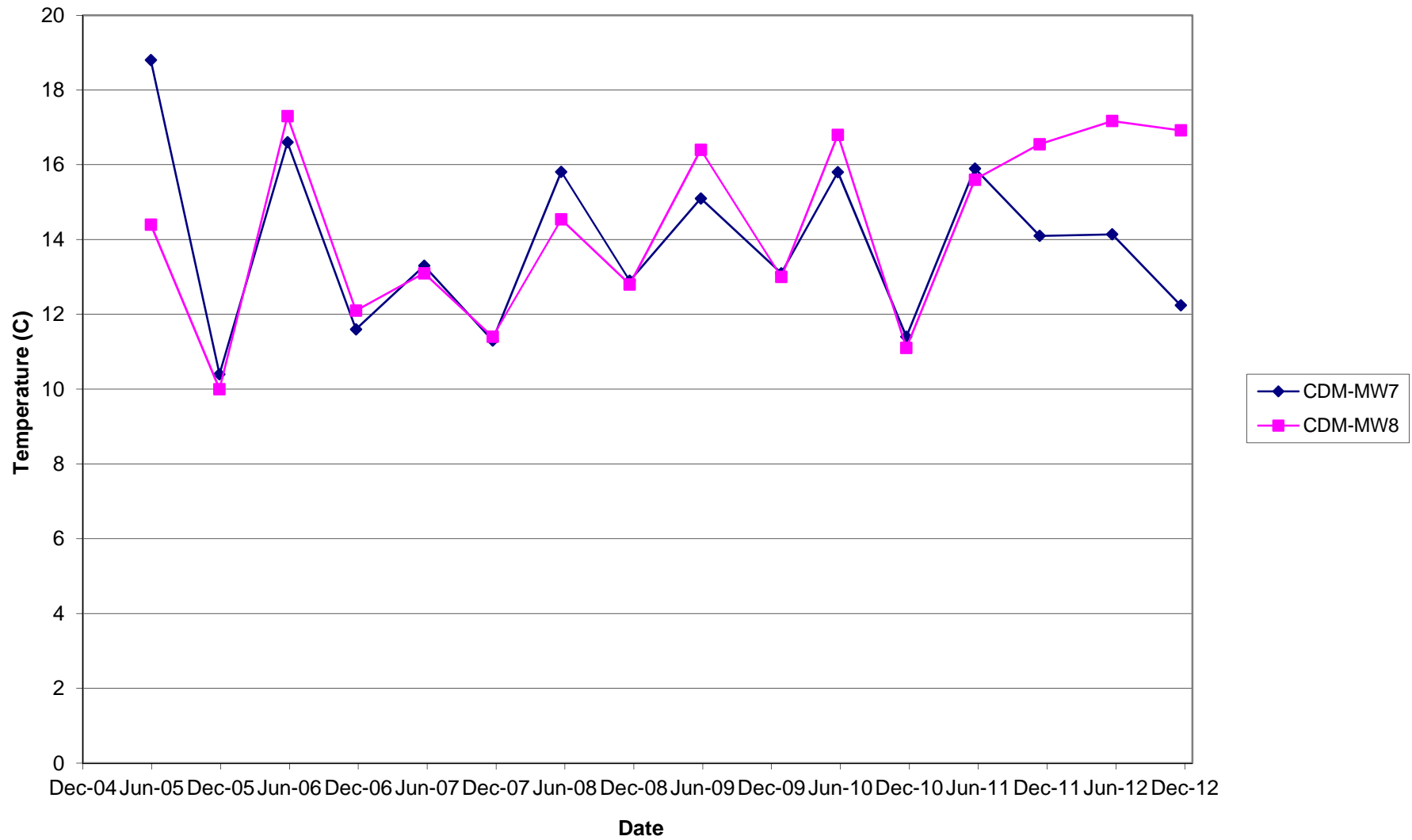


**Chart 3 - Libby Asbestos Class IV Landfill - Specific Conductivity**

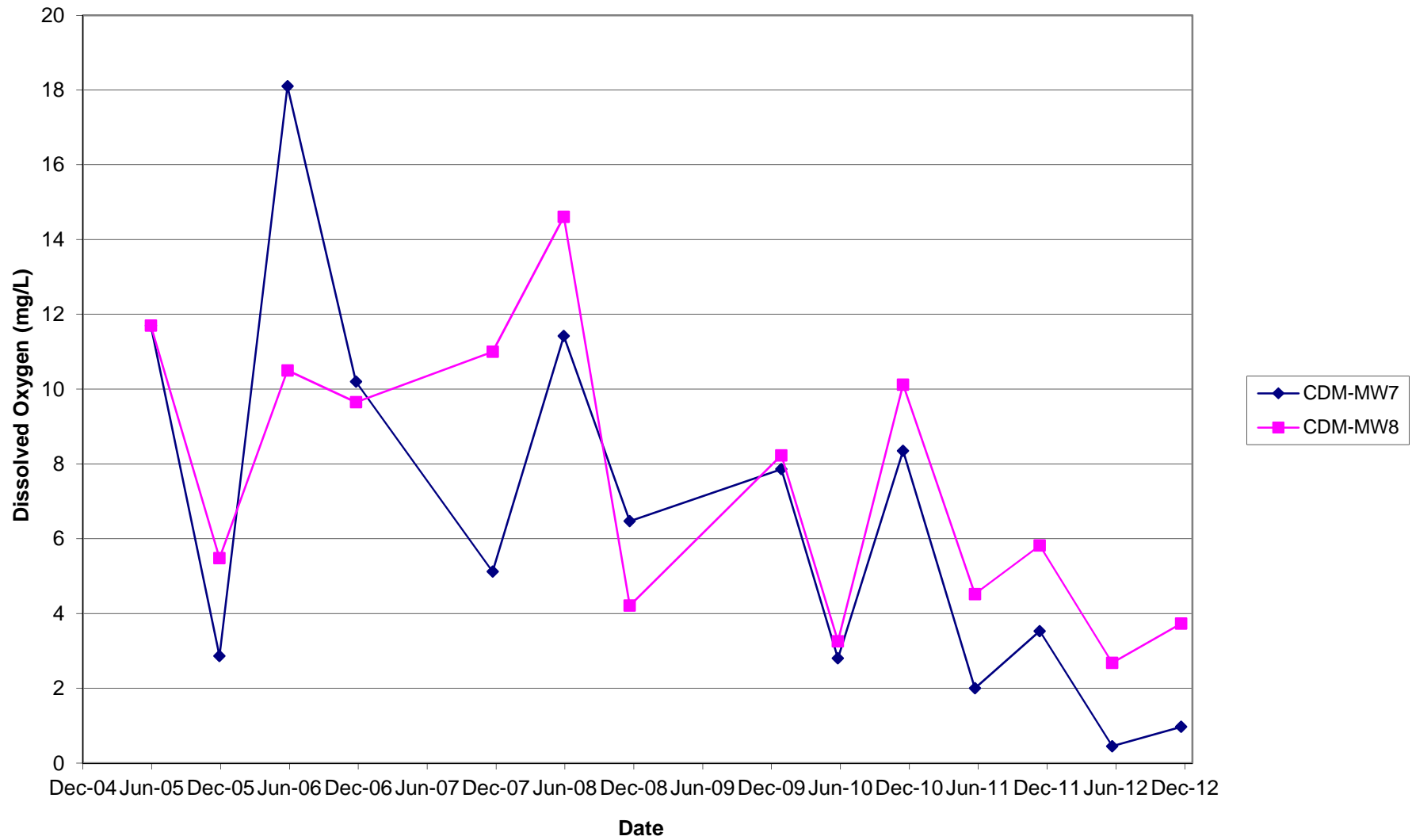




**Chart 4 - Libby Asbestos Class IV Landfill - Temperature**



**Chart 5- Libby Asbestos Class IV Landfill - Dissolved Oxygen**



## **Appendix B**

## DATA EVALUATION REPORT

**Project:** Lincoln County Groundwater Sampling  
**Data Validator:** Kimberly Zilis  
**Sample Delivery Group:** 1212075 and 1212077  
**Laboratory:** Compuchem, Cary, NC  
**Sample Date:** December 18 and 19, 2012  
**Evaluation Date:** January 9, 2013

On December 18 and 19, 2012, CDM Federal Programs Corporation (CDM Smith) collected groundwater samples in support of the Lincoln County semiannual groundwater monitoring program. Two water samples, one field duplicate, a field blank and two trip blanks were delivered to Compuchem on December 20 and 21, 2012. The volatile petroleum hydrocarbons, extractable petroleum hydrocarbons, and chemical oxygen demand were subcontracted to ENCO laboratories.

CDM evaluated the data received in accordance with the method requirements and the *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review* (EPA 2008) and the *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review* (EPA 2010). The samples were analyzed according to the following methods:

*Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods (SW-846). Third Edition, Final Update III*

- 8260B - Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)
- 6010C - Inductively Coupled Plasma-Atomic Emission Spectrometry
- 6020A - Inductively Coupled Plasma-Mass Spectrometry
- 7470A - Mercury in Liquid Waste (Manual Cold-Vapor Technique)
- 9010C and 9012B - Total and Amenable Cyanide: Distillation

*Methods for Chemical Analysis of Water and Wastes, 3<sup>rd</sup> Edition, March 1983*

- 300.0 - Determination of Inorganic Anions in Drinking Water by Ion Chromatography
- 353.2 - Nitrogen, Nitrate-Nitrite

*Standard Methods for the Examination of Water and Wastewater, 21<sup>st</sup> Edition, 2005*

- SM5220D - Chemical Oxygen Demand (COD)

*Massachusetts Department of Environmental Protection Division of Environmental Analysis, May 2004*

- Method for the Determination of Volatile Petroleum Hydrocarbons (VPH)
- Method for the Determination of Extractable Petroleum Hydrocarbons (EPH)

The field samples and corresponding laboratory sample identifiers included in this package are as follows:

INDEX ID	FIELD ID	LABORATORY SAMPLE ID	MATRIX
IR-44817	CDM-MW-7	1212075-01	Water
IR-45180	CDM-MW-8	1212075-04	Water
IR-44819	CDM-MW-8 Dup	1212075-05	Water
IR-44818	Field Blank	1212075-02	Water
TB-1	Trip Blank	1212075-03	Water
TB-2	Trip Blank	1212075-06	Water

### REVIEW SUMMARY

I. Deliverables

All deliverables were present.

YES

Comments: A full raw data package was not required. Sample results and laboratory Quality Control (QC) results were submitted by the laboratory and evaluated by CDM.

II. Preservation and Holding Times

Samples were preserved appropriately and all holding times were met.

YES

III. Instrument Calibration

Calibration documentation was not provided for review.

IV. Method Blank Analysis Results

No target compounds were detected in the method blank at or above the reporting limit.

YES

V. Other Blank Analysis Results

No target compounds were detected in other blanks at or above the reporting limit.

NO

Comments: A field blank was created in the field consisting of distilled water and was analyzed as a sample for the full suite of analyses. Trip blanks traveled with the volatile samples for each shipment, and was analyzed for volatile compounds only. Acetone was reported in the field blank, at 44 µg/L. Acetone was reported in TB-1 at 3.0 µg/L in the December 18<sup>th</sup> trip blank and no target compounds were reported in the December 19<sup>th</sup> trip blank.

The chemical oxygen demand (COD) for the field blank was 17 mg/L with a reporting limit of 10 mg/L. The method blank was less than 10 mg/L. One field blank was collected for this sampling event to assess the decontamination procedure. COD was reported in all samples, none

higher than the field blank at 17 mg/L. It does not seem likely that the decontamination procedure introduced organics to the organic free/ analyte free decontamination water. As COD falls under the non-degradation rules, the results for the samples were reported as not detected at the level reported in the field blank, 17,000 µg/L, instead of the standard reporting limit of 10,000 µg/L. Analyzing the field blank water, without the decontamination procedure, should be considered for the next sampling event.

VI. Surrogate Compound Results

All surrogate compound recovery results met laboratory defined QC criteria

NO

Comments: The recovery of surrogate 2-bromonaphthalene in the EPH fractionation was below criteria in sample 1R-45180. There were no hydrocarbons reported in any of the fractions, in any of the samples. The absence of total hydrocarbons suggests the samples did not require fractionation, and this surrogate is a fractionation surrogate only. The method reporting limits are 5 times lower than the action limit and the results have been reported as not detected (ND) without qualification.

VII. Matrix Spikes/Matrix Spike Duplicates (MS/MSDs)

Matrix Spike analyses were performed at a frequency of not less than 5% of sample analyses.

All MS/MSD results met specified recovery and precision limits.

NO

Comments: The MSD recovery for cyanide was 73.1%, below the recovery criteria of 75-125%. The relative percent difference (RPD) between the cyanide MS and MSD recoveries was 25.2%, above the 20% criteria. The results for cyanide have been qualified as estimated

VIII. Field Duplicates

Field duplicates were collected at a frequency of not less than 5% of sample analyses. The RPD between the native sample and the field duplicate was less than 20% when the values were greater than 5 times the reporting limit. When either the parent or the duplicate value is less than 5 times the reporting limit, the reporting limit is control limit for the difference between the two values.

YES

Comments: Index ID IR-44819 is a field duplicate of IR-45180.

IX. Laboratory Control Sample

Target analytes were spiked into a Laboratory Control Sample (LCS) and recoveries were within the laboratory defined control limits.

YES

X. Laboratory Duplicates

Laboratory duplicates were performed and recoveries were within the laboratory defined control limits.

YES

XI. Detection Limits

All detection limits met specified reporting limits.  
YES

XII. Overall Assessment of Data

The analyses of the samples were found to be compliant with the requirements of both the method and the QAPP, except where otherwise noted. No qualification was necessary based on overall system performance.  
YES





Phone: 919-379-4100 Fax 919-379-4040

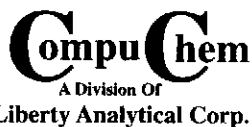
Page / of /

Courier Fed-Ex - 7743 6036 1831  
Airbill No. 7743 6038 7789  
Sampling Complete? Y or N 7743 6220 5046

[illegible]

**Samples stored 60 days after date report mailed at no extra charge.**

White & Yellow copy to lab • Pink copy for customer



**26583**

Page 1 of 1

Cary, NC 27513

Phone: 919-379-4100 Fax 919-379-4040

Airbill No. 7743 7394 8532

Sampling Complete? Y or N

[illegible]

**Samples stored 60 days after date report mailed at no extra charge.**

White & Yellow copy to lab • Pink copy for customer

**CDM Smith - Libby Field Office**
**CHAIN OF CUSTODY RECORD**

Priority # H-8

No: 23364

From: 60 Port Blvd Ste 201, Libby MT 59923

Libby Asbestos Investigation EPA Region 8

Send To: EMSL27

AirBill: NA

CarrierName: hand delivered

107 W 4th Street

No of Samples: 4

DateShipped: 12/21/2012

Libby, MT 59923

	Sample #	Tag	Sample Date	Matrix	Vol/L Area/cm2	Filter Pore Size (um)	TAT Days	Analyses	LV ID	Media Code	Comments	
✓	1R-44817	AL1	12/18/2012	Water			3	TEM-ISO		A		✓
✓	1R-44818	AL1	12/19/2012	Water			3	TEM-ISO		A		✓
✓	1R-44819	AL1	12/20/2012	Water			3	TEM-ISO		A		✓
✓	1R-45180	AL1	12/20/2012	Water			3	TEM-ISO		A		✓

Special Instructions: LCLGW1211-Rev 0

**SAMPLES TRANSFERRED FROM**
**CHAIN OF CUSTODY #**

Relinquished by (Signature and Company)	Date/Time	Received by (Signature and Company)	Date/Time	Sample Condition Upon Receipt
<i>D. Hanger - CDM Smith</i>	<i>12/21/12 10:35</i>	<i>[Signature]</i>	<i>12/21/12 10:35</i>	<i>OK ACCEPT</i>

# INTERNAL CHAIN OF CUSTODY

12/21/2012 5:57:58 PM

Order ID: 271201194

Attn: Doug Kent  
TechLaw, Inc.  
ESAT Region 8  
16194 W. 45th Drive  
Golden, CO 80403

Customer ID: TECH25  
Customer PO:  
Received: 12/21/12 10:35 AM

Fax: Phone: (303) 312-7725  
Project: 23364  
Samples collected 12/18,19,20/2012

EMSL Order: 271201194  
EMSL Proj ID: Libby  
Cust COC ID

**Test:** TEM EPA 100.2 (>0.5µm) **Matrix** Drinking Water **TAT:** 72 Hour **Qty:** 4

Acct Sts: N30 **Slsprsn:** rdemalo

**Logged:** rpescador **Date:**

Inter-Lab Sample Transfer

**Sample** ☒ Acceptable  
**Condition:** ☐ Unacceptable

Comments

**Samples Relinquished:** \_\_\_\_\_ **Date** \_\_\_\_\_

**Samples Received:** \_\_\_\_\_ **Date** \_\_\_\_\_

**Package Mailed to Cinnaminson:** \_\_\_\_\_ **Date** \_\_\_\_\_

**Method of Delivery:** \_\_\_\_\_

**Includes: (Circle)**

Benchsheets \_\_\_\_\_ Sample Slides \_\_\_\_\_ Sample filters \_\_\_\_\_  
Micrographs \_\_\_\_\_ GridBox \_\_\_\_\_ Other \_\_\_\_\_

**Initial Prep (Initials/Lab):** DB **Date:** 12/21/12  
**Filter Prep (Initials/Lab):** DB **Date:** 12/21/12  
**Grid Prep (Initials/Lab):** DB **Date:** 12/24/12

**Final Package Received:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**QC Selection:** \_\_\_\_\_ **Date:** \_\_\_\_\_  
**Date Package Review:** \_\_\_\_\_ **Date:** \_\_\_\_\_  
**Date Package Mailed:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Special Instructions**

Order ID	Lab Sample #	Cust. Sample #	Location	Due Date
271201194	271201194-0001	1R-44817		12/26/2012 10:35:00 AM
271201194	271201194-0002	1R-44818		12/26/2012 10:35:00 AM
271201194	271201194-0003	1R-44819		12/26/2012 10:35:00 AM
271201194	271201194-0004	1R-45180		12/26/2012 10:35:00 AM

2712-4B-125 (O-S)

**CDM Smith - Libby Field Office**

From: 60 Port Blvd Ste 201, Libby MT 59923

AirBill: NA

No of Samples: 4

**CHAIN OF CUSTODY RECORD**

Libby Asbestos Investigation EPA Region 8

CarrierName: hand delivered

DateShipped: 12/21/2012

Priority # H-8

No: 23364

Send To: EMSL27

107 W 4th Street

Libby, MT 59923

271201194

Sample #	Tag	Sample Date	Matrix	Vol/L Area/cm2	Filter Pore Size (um)	TAT Days	Analyses	LV ID	Media Code	Comments
✓ 1R-44817	AL1	12/18/2012	Water			3	TEM-ISO		A	
✓ 1R-44818	AL1	12/19/2012	Water			3	TEM-ISO		A	
✓ 1R-44819	AL1	12/20/2012	Water			3	TEM-ISO		A	
✓ 1R-45180	AL1	12/20/2012	Water			3	TEM-ISO		A	

1111

Special Instructions: LCLGW1211-Rev 0

**SAMPLES TRANSFERRED FROM  
CHAIN OF CUSTODY #**

Relinquished by (Signature and Company)

Date/Time

Received by (Signature and Company)

Date/Time

Sample Condition Upon Receipt

D. Hagen - CDM Smith 12/21/12

10:35

Dan Brown

12/21/12

1035

OK Accept



# EMSL Analytical, Inc.

107 West 4th Street Libby, MT 59923

Phone/Fax: (406) 293-9066 /

<http://www.emsl.com> / [mobileasbestoslab@emsl.com](mailto:mobileasbestoslab@emsl.com)

EMSL Order ID: 271201194

Customer ID: TECH25

Customer PO:

Project ID: Libby

Attn: Doug Kent  
TechLaw, Inc.  
ESAT Region 8  
16194 W. 45th Drive  
Golden, CO 80403

Phone: (303) 312-7725  
Fax:  
Collected: 12/18/2012 - 12/20/2012  
Received: 12/21/2012  
Analyzed: 12/26/2012

Proj: 23364


Samples collected 12/18,19,20/2012 (Libby)

## Test Report: Determination of Asbestos Structures $\geq 0.5 \mu\text{m}$ & $> 10 \mu\text{m}$ in Drinking Water Performed by the 100.2 Method (EPA 600/R-94/134)

Sample ID Client / EMSL	Sample Filtration Date/Time	Original Sample Vol. Filtered (ml)	Effective Filter Area (mm <sup>2</sup> )	Area Analyzed (mm <sup>2</sup> )	ASBESTOS					
					Asbestos Types	Fibers Detected	Analytical Sensitivity	Concentration	Confidence Limits	
								MFL (million fibers per liter)		
1R-44817 271201194-0001 Not QC EMSL27	12/21/2012 01:00 PM	100	1295	0.0780	$\geq 0.5 \mu\text{m}$ None Detected	ND	0.17	<0.17	0.00 - 0.61	
					$> 10 \mu\text{m}$ only None Detected	ND	0.17	<0.17	0.00 - 0.61	
1R-44818 271201194-0002 Not QC EMSL27	12/21/2012 01:00 PM	100	1295	0.0780	$\geq 0.5 \mu\text{m}$ None Detected	ND	0.17	<0.17	0.00 - 0.61	
					$> 10 \mu\text{m}$ only None Detected	ND	0.17	<0.17	0.00 - 0.61	
1R-44819 271201194-0003 Not QC EMSL27	12/21/2012 01:00 PM	100	1295	0.0780	$\geq 0.5 \mu\text{m}$ None Detected	ND	0.17	<0.17	0.00 - 0.61	
					$> 10 \mu\text{m}$ only None Detected	ND	0.17	<0.17	0.00 - 0.61	
1R-45180 271201194-0004 Not QC EMSL27	12/21/2012 01:00 PM	100	1295	0.0780	$\geq 0.5 \mu\text{m}$ None Detected	ND	0.17	<0.17	0.00 - 0.61	
					$> 10 \mu\text{m}$ only None Detected	ND	0.17	<0.17	0.00 - 0.61	

Analyst(s)

Roy Pescador (4)

  
R. K. Mahoney, Laboratory Manager  
or Other Approved Signatory

Any questions please contact Ron Mahoney.

Initial report from: 12/26/2012 14:23:36

Sample collection and containers provided by the client, acceptable bottle blank level is defined as  $\leq 0.01 \text{MFL} > 10 \mu\text{m}$ . ND=None Detected. This report may not be reproduced, except in full, without written permission by EMSL Analytical, Inc. This report relates only to those items tested. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. Libby, MT MT CERT0017

**SAP ANALYTICAL SUMMARY # LCLGW1211**  
**SUMMARY OF PREPARATION AND ANALYTICAL REQUIREMENTS FOR ASBESTOS**

**Title:** Lincoln County Class IV Asbestos Landfill Operations Plan, Revision 2, Libby Asbestos Project

**SAP Date (Revision):** February 2008 (Revision 2)

**EPA Technical Advisor:** Elizabeth Fagen (303-312-6095, fagan.elizabeth@epa.gov); Mike Cirian (406-293-6194, cirian.mike@epa.gov)  
(contact to advise on DQOs of SAP related to preparation/analytical requirements)

**Sampling Program Overview:** The objective of the groundwater sampling program is to monitor groundwater during low and high groundwater periods within the perched aquifer using wells located at the Lincoln County Landfill. Two wells, CDM-MW-7 and CDM-MW-8, are sampled during each semi-annual event. Field and laboratory quality control samples are also prescribed in the SAP.

**Sample ID Prefix:** 1R-

**TEM Preparation and Analytical Requirements for Water Samples:**

Medium Code	Medium, Sample Type	Preparation Details (a)				Analysis Details			Applicable Laboratory Modifications (current version of)
		Investigative?	Indirect Prep?		Filter Archive?	Method	Counting/Recording Rules	Analytical Sensitivity/Stopping Rules	
			With Ashing	Without Ashing					
A	Water	Yes	No	No	Yes	TEM EPA Method 100.2	All asbestos (b); L: $\geq 0.5\text{ }\mu\text{m}$ (c) AR: $\geq 3:1$	Count a minimum of 2 grid openings in 2 grids, then continue counting until one is achieved: i) sensitivity of 200,000 L <sup>-1</sup> is achieved; ii) 100 structures are recorded; or iii) 100 GOs have been examined.	LB-000019, LB-000020, LB-000029, LB-000030, LB-000066, LB-000084, LB-000085

- (a) Sample and filter preparation should be performed in basic accordance with EPA Method 100.2 (as modified by LB-000020A). Grid preparation should be performed in basic accordance with Section 9.3 of ISO 10312:1995(E).  
(b) If observed, chrysotile structures should be recorded, but chrysotile structure counting may stop after 50 structures have been recorded.  
(c) Length requirement as modified by LB-000020.

**Laboratory Quality Control Sample Frequencies:**

TEM (d): Lab Blank – 4%

Recount Same – 1%

Recount Different – 3%

Verified Analysis – 1%

Repreparation – 1%

(d) See LB-000029B for selection procedure and QC acceptance criteria



**Requirements Revision:**

Revision #:	Effective Date:	Revision Description
0	12/19/11	N/A

Analytical Laboratory Review Sign-off:

- ☐ EMSL – Libby [sign & date: R.K. Mahoney 20 December 2011]
- ☐ EMSL – Cinnaminson [sign & date: R. Denton 20 December 2011]
- ☐ EMSL – Beltsville [sign & date: Joseph Centifonti 20 December 2011]
- ☐ ESAT [sign & date: Douglas Kent 20 December 2011]
- ☐ Hygeia [sign & date: Kyeong Corbin 21 December 2011]
- ☐ RI-SI [sign & date: Jeanne Orr 27 December 2011]
- ☐ EMSL – Denver [sign & date: Erin Orham 20 December 2011]

*[Checking the box and initialing above indicates that the laboratory has reviewed and acknowledged the preparation and analytical requirements associated with the specified SAP.]*

EMSL Analytical Inc., Libby, MT

Prepared by: DVB

Date: 17/21/12

Sample #	Temperature at Receipt (Optional) °C	Volume Received (Optional) mL	Sample Processing				Filtration			Serial Dilution								Remaining Volume		
			Processing Date	UV	Ozonation	Total Sonication Time	Filtration Date	Volume Filtered	Prepared for Analysis	First Dilution				Second Dilution				Filter Date	Volume	
				Y/N	Y/N	min		mL		Y/N	Vol. of original sample used	Resuspend volume	Volume Filtered	Prepared for Analysis	Vol of 1st Dilution used	Resuspend volume	Volume Filtered			Prepared for Analysis
IR-44817			12/21/12	Y	Y	15	12/21/12	50	Y											
								100	Ⓟ	analyzed										
IR-44818			12/21/12	Y	Y	15	12/21/12	50	Y											
								100	Ⓟ	analyzed										
IR-44819			12/21/12	Y	Y	15	12/21/12	50	Y											
								100	Ⓟ	analyzed										
IR-45180			12/21/12	Y	Y	15	12/21/12	50	Y											
								100	Ⓟ	analyzed										
MR			-	-	-	-	12/21/12	100	Y											
<div>DB 12/21/12</div>																				

**Backing Filter Pore Size:** 5  $\mu$ m

## TEM Asbestos Structure Count for Water Samples\_WaterEDD\_13f

Laboratory ID:	EMSL27
Instrument	JEOL 100 CX II (27-2)
Voltage (kV)	100
Magnification	19,000 X
Grid opening area (mm <sup>2</sup> )	0.013
Scale: 1L =	1
Scale: 1D =	1
Primary filter area (mm <sup>2</sup> )	360
Filter Pore Size (um)	0.2
Filter Status (Analyzed, Overloaded, Damaged, Lost, Canceled)	Analyzed

EPA Sample Number	1R-41811	Tag	AL1
Matrix	Water		
Volume (mL) received (optional)			
Date received by lab	12/21/12		
Lab Job Number	271201194		
Lab Sample Number	271201194-0001		
Number of grids prepared	3		
Prepared by (e.g. M. Smith)	D. Barney		
Preparation date	12/218/12		
EPA COC Number	23364		
QA Type (Not OC, Recount Same, Recount Diff, Reprep, Verified Analysis, Reconcil, Lab Blank, Interlab)	Interlab		

Analyzed by (e.g. M. Smith)	R. Pescador
Analysis date	12/26/12
Analysis Method	TEM ISO
Analysis Method SOP (in accord with LB-000020)	ISO 10312
Grid storage location	2712-LIB-125
Archive filter(s) storage location	Cinnaminson
1st dilution	Volume used from primary sample (mL) Total volume after dilution (mL)
2nd dilution	Volume used from 1st dilution (mL) Total volume after dilution (mL)
Volume applied to filter (mL)	100
Estimated particulate loading on filter (%)	15

## Recording Rules:

Minimum Aspect Ratio (circle one):	
none	2.3:1
	2.5:1
Minimum Length (um):	0.5
Minimum Width (um):	none

## Stopping Rules:

Target Sensitivity (1/L):	200,000
Max Area Examined (mm <sup>2</sup> ):	
Target # of Structures:	100

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class (see below)				Mineral Desc	EDXA	Sketch/ Comments	1 = yes, blank = no			CH Not Counted
			Primary	Total	Length	Width		LA	OA	CH	NAM				Sketch	Photo	EDS	
04	G7	nd																
	G9	nd																
05	G3	nd																
	G1	nd																
06	G4	nd																
	G2	nd																
<del>By 12/26/12</del>																		

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

CH = Chrysotile

NAM = Non-asbestos material

If sample was analyzed by more than one analyst or across multiple analysis dates, enter analysis details below.

	Analyst #2	Analyst #3
Analyzed by:		
Analysis date:		
Instrument:		

Grid opening traverse direction (circle one):

H Horizontal  
☒ V Vertical

Are prepped grids acceptable for analysis? (circle one) ☒ Yes ☐ No  
If No, explain:

## TEM Asbestos Structure Count for Water Samples\_WaterEDD\_13f

Laboratory ID	EMSL27
Instrument	JEOL 100 CX II (27-2)
Voltage (kV)	100
Magnification	19,000 X
Grid opening area (mm <sup>2</sup> )	0.013
Scale: 1L =	1
Scale: 1D =	1
Primary filter area (mm <sup>2</sup> )	360
Filter Pore Size (um)	0.2
Filter Status (Analyzed, Overloaded, Damaged, Lost, Canceled)	Analyzed

EPA Sample Number	1R-44818	Tag	AL1
Matrix	Water		
Volume (mL) received (optional)			
Date received by lab	12/21/12		
Lab Job Number	271201194		
Lab Sample Number	271201194-0002		
Number of grids prepared	3		
Prepared by (e.g. M. Smith)	D. Barney		
Preparation date	12/21/12		
EPA COC Number:	23364		
QA Type (Not QC, Recount Same, Recount Diff, Reprep, Verified Analysis, Reconcil, Lab Blank, Interlab)	11-11-12		

Analyzed by (e.g. M. Smith)	R. Pescador
Analysis date	12/26/12
Analysis Method	TEM ISO
Analysis Method SOP (in accord with LB-000020)	ISO 10312
Grid storage location	2712-LIB-125
Archive filter(s) storage location	Cinnaminson
1st dilution	Volume used from primary sample (mL) Total volume after dilution (mL)
2nd dilution	Volume used from 1st dilution (mL) Total volume after dilution (mL)
Volume applied to filter (mL)	100
Estimated particulate loading on filter (%)	1

Recording Rules:	
Minimum Aspect Ratio (circle one):	none <u>≥ 3:1</u> ≥ 5:1
Minimum Length (um)	0.5
Minimum Width (um):	none

Stopping Rules:	
Target Sensitivity (1/L)	200,000
Max Area Examined (mm <sup>2</sup> ):	
Target # of Structures:	100

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class (see below)				Mineral Desc	EDXA	Sketch/ Comments	1 = yes, blank = no			CH Not Counted
			Primary	Total	Length	Width		LA	OA	CH	NAM				Sketch	Photo	EDS	
P4	G4	nd																
	G2	nd																
P5	G8	nd																
	G10	nd																
P6	G3	nd																
	G1	nd																
<del>mg 12/26/12</del>																		

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

CH = Chrysotile

NAM = Non-asbestos material

If sample was analyzed by more than one analyst or across multiple analysis dates, enter analysis details below.

	Analyst #2	Analyst #3
Analyzed by:		
Analysis date:		
Instrument:		

Grid opening traverse direction (circle one):

H Horizontal  
☒ V Vertical

Are prepped grids acceptable for analysis? (circle one) Yes No

If No, explain:

## TEM Asbestos Structure Count for Water Samples\_WaterEDD\_13f

Laboratory ID:	EMSL27
Instrument	JEOL 100 CX II (27-2)
Voltage (kV)	100
Magnification	19,000 X
Grid opening area (mm <sup>2</sup> )	0.013
Scale: 1L =	1
Scale: 1D =	1
Primary filter area (mm <sup>2</sup> )	360
Filter Pore Size (um)	0.2
Filter Status (Analyzed, Overloaded, Damaged, Lost, Cancelled)	Analyzed

EPA Sample Number	1R-4-1819	Tag	AL1
Matrix	Water		
Volume (mL) received (optional)			
Date received by lab	12/21/12		
Lab Job Number	271201194		
Lab Sample Number	271201194-0003		
Number of grids prepared	3		
Prepared by (e.g. M. Smith)	D. Barney		
Preparation date	12/21/12		
EPA COC Number	23364		
QA Type (Not QC, Recount Same, Recount Diff, Reprep, Verified Analysis, Reconcil, Lab Blank, Interlab)	11/1/12		

Analyzed by (e.g. M. Smith)	R. Pescador
Analysis date	12/26/12
Analysis Method	TEM ISO
Analysis Method SOP (in accord with LB-000020)	ISO 10312
Grid storage location	2712-LIB-125
Archive filter(s) storage location	Cinnaminson
1st dilution	Volume used from primary sample (mL) Total volume after dilution (mL)
2nd dilution	Volume used from 1st dilution (mL) Total volume after dilution (mL)
Volume applied to filter (mL)	100
Estimated particulate loading on filter (%)	20

## Recording Rules:

Minimum Aspect Ratio (circle one):  
 none 3:1  $\leq 5:1$   
 Minimum Length (um): 0.5  
 Minimum Width (um): none

## Stopping Rules:

Target Sensitivity (1/L): 200,000  
 Max Area Examined (mm<sup>2</sup>):  
 Target # of Structures: 100

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class (see below)				Mineral Desc	EDXA	Sketch/ Comments	1 = yes, blank = no			CH Not Counted
			Primary	Total	Length	Width		LA	OA	CH	NAM				Sketch	Photo	EDS	
Q4	G8	nd																
	G10	nd																
Q5	G8	nd																
	G10	nd																
Q6	G8	nd																
	G10	nd																

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

CH = Chrysotile

NAM = Non-asbestos material

If sample was analyzed by more than one analyst or across multiple analysis dates, enter analysis details below.

Analyst #2	Analyst #3
Analyzed by:	
Analysis date:	
Instrument:	

Grid opening traverse direction (circle one):

H Horizontal  
V Vertical

Are prepped grids acceptable for analysis? (circle one) Yes No

If No, explain:

## TEM Asbestos Structure Count for Water Samples\_WaterEDD\_13f

Laboratory ID:	EMSL27
Instrument	JEOL 100 CX II (27-2)
Voltage (kV)	100
Magnification	19,000 X
Grid opening area (mm <sup>2</sup> )	0.013
Scale: 1L =	1
Scale: 1D =	1
Primary filter area (mm <sup>2</sup> )	360
Filter Pore Size (um)	0.2
Filter Status (Analyzed, Overloaded, Damaged, Lost, Cancelled)	Analyzed

EPA Sample Number	1R-45780	Tag	AL1
Matrix	Water		
Volume (mL) received (optional)			
Date received by lab	12/21/12		
Lab Job Number	271201194		
Lab Sample Number	271201194-0004		
Number of grids prepared	3		
Prepared by (e.g. M. Smith)	D. Barney		
Preparation date	12/21/12		
EPA COC Number	23364		
QA Type (Not QC, Recount Same, Recount Diff, Reprep, Verified Analysis, Reconcil, Lab Blank, Interlab)	11-4-100		

Analyzed by (e.g. M. Smith)	R. Pescador
Analysis date	12/26/12
Analysis Method	TEM ISO
Analysis Method SOP (in accord with LB-000020)	ISO 10312
Grid storage location	2712-LIB-125
Archive filter(s) storage location	Cinnaminson
1st dilution	Volume used from primary sample (mL) Total volume after dilution (mL)
2nd dilution	Volume used from 1st dilution (mL) Total volume after dilution (mL)
Volume applied to filter (mL)	100
Estimated particulate loading on filter (%)	18

## Recording Rules:

Minimum Aspect Ratio (circle one):  
 none 2.37 2.5 1  
 Minimum Length (um): 0.5  
 Minimum Width (um): none

## Stopping Rules:

Target Sensitivity (1/L): 200,000  
 Max Area Examined (mm<sup>2</sup>):  
 Target # of Structures: 100

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class (see below)				Mineral Desc	EDXA	Sketch/ Comments	1 = yes, blank = no			CH Not Counted
			Primary	Total	Length	Width		LA	OA	CH	NAM				Sketch	Photo	EDS	
R4	F3	nd																
	F1	nd																
R5	G8	nd																
	G10	nd																
R6	G4	nd																
	G2	nd																
m 12/26/12																		

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

CH = Chrysotile

NAM = Non-asbestos material

If sample was analyzed by more than one analyst or across multiple analysis dates, enter analysis details below.

Analyzed by:	Analyst #2	Analyst #3
Analysis date		
Instrument		

Grid opening traverse direction (circle one)

H Horizontal  
 V Vertical

Are prepped grids acceptable for analysis? (circle one) Yes No

If No, explain:



# EMSL Analytical, Inc.

107 West 4th Street Libby, MT 59923  
Phone/Fax: (406) 293-9066 /  
<http://www.emsl.com> / [mobileasbestoslab@emsl.com](mailto:mobileasbestoslab@emsl.com)

Lincoln County Landfill

EMSL Order ID: 271201194  
Customer ID: TECH25  
Customer PO:  
Project ID: Libby

Attn: Doug Kent  
TechLaw, Inc.  
ESAT Region 8  
16194 W. 45th Drive  
Golden, CO 80403

Phone: (303) 312-7725  
Fax:  
Collected: 12/18/2012 - 12/20/2012  
Received: 12/21/2012  
Analyzed: 12/26/2012

Proj: 23364

Samples collected 12/18, 19, 20/2012 (Libby)

## Test Report: Determination of Asbestos Structures $\geq 0.5 \mu\text{m}$ & $> 10 \mu\text{m}$ in Drinking Water Performed by the 100.2 Method (EPA 600/R-94/134)

Sample ID Client / EMSL	Sample Filtration Date/Time	Original Sample Vol. Filtered (ml)	Effective Filter Area (mm <sup>2</sup> )	Area Analyzed (mm <sup>2</sup> )	ASBESTOS					
					Asbestos Types	Fibers Detected	Analytical Sensitivity	Concentration MFL (million fibers per liter)	Confidence Limits	
1R-44817 271201194-0001 Not QC EMSL27	12/21/2012 01:00 PM	100	1295	0.0780	$\geq 0.5 \mu\text{m}$	None Detected	ND	0.17	<0.17	0.00 - 0.61
					$> 10 \mu\text{m}$ only	None Detected	ND	0.17	<0.17	0.00 - 0.61
1R-44818 271201194-0002 Not QC EMSL27	12/21/2012 01:00 PM	100	1295	0.0780	$\geq 0.5 \mu\text{m}$	None Detected	ND	0.17	<0.17	0.00 - 0.61
					$> 10 \mu\text{m}$ only	None Detected	ND	0.17	<0.17	0.00 - 0.61
1R-44819 271201194-0003 Not QC EMSL27	12/21/2012 01:00 PM	100	1295	0.0780	$\geq 0.5 \mu\text{m}$	None Detected	ND	0.17	<0.17	0.00 - 0.61
					$> 10 \mu\text{m}$ only	None Detected	ND	0.17	<0.17	0.00 - 0.61
1R-45180 271201194-0004 Not QC EMSL27	12/21/2012 01:00 PM	100	1295	0.0780	$\geq 0.5 \mu\text{m}$	None Detected	ND	0.17	<0.17	0.00 - 0.61
					$> 10 \mu\text{m}$ only	None Detected	ND	0.17	<0.17	0.00 - 0.61

CDM-MW-07

Field Blank

Dup-1-CDM-MW-08

CDM-MW-08

12/28/12  
jt

Kris B.  
Simon W.  
Terry C.  
Damon R.

Analyst(s)  
Roy Pescador (4)

Kim Z.  
  
R. K. Mahoney, Laboratory Manager  
or Other Approved Signatory

Any questions please contact Ron Mahoney.

Initial report from: 12/26/2012 14:23:36

Sample collection and containers provided by the client, acceptable bottle blank level is defined as  $\leq 0.01 \text{ MFL} > 10 \mu\text{m}$ . ND=None Detected. This report may not be reproduced, except in full, without written permission by EMSL Analytical, Inc. This report relates only to those items tested. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. Libby, MT MT CERT0017



Event ID LCL-020108Libby Water Sample & Location  
Field Sample Data SheetFSDS # **W - 100184**Address Lincoln County LandfillDate 12-18-12Property ID: AD-000196 Logbook # 101310 Pgs 11 Sampler(s) K. Beaudoin, J. Swilson

Data Item	1	2	3
* Location ID	SP-113801		
* Is this a new Location	Yes <input checked="" type="radio"/> No Revised (If No, "Z" through location section)	Yes No Revised (If No, "Z" through location section)	Yes No Revised (If No, "Z" through location section)
* Location Type			
* Location Description			
Location Area (ft <sup>2</sup> )			
Location Comment	<u>KB</u> <u>12-18-12</u>		
Location Comment 2			
* Sample ID	1R- 44817		
Sample Time	1343		
* Sample ABS	<input checked="" type="radio"/> N Y	N Y	<u>KB</u> N Y
* Sample Venue	Indoor <u>Outdoor</u> NA	Indoor Outdoor NA	Indoor <u>Outdoor</u> NA
* Sample PrePostClear	<u>NA</u> Pre Post Clear: 1 <sup>st</sup> 2 <sup>nd</sup> 3 <sup>rd</sup> 4 <sup>th</sup> 5 <sup>th</sup> 6 <sup>th</sup> 7 <sup>th</sup>	NA Pre Post Clear: 1 <sup>st</sup> 2 <sup>nd</sup> 3 <sup>rd</sup> 4 <sup>th</sup> 5 <sup>th</sup> 6 <sup>th</sup> 7 <sup>th</sup>	<u>12-18-12</u> NA Pre Post Clear: 1 <sup>st</sup> 2 <sup>nd</sup> 3 <sup>rd</sup> 4 <sup>th</sup> 5 <sup>th</sup> 6 <sup>th</sup> 7 <sup>th</sup>
* Sample Type	<u>FS</u> FD FB Other	FS FD FB Other	FS FD FB Other
Sample Parent ID			
* Composite	Y <input checked="" type="radio"/> <u>NA</u>	Y N	Y N
* Sample Aliquots	0 <u>Other</u> NA	0 Other	0 Other
Sample Location Description	CDM-MW-07		
Sample Field Comments	MS/MSD <b>ND</b>		

V 120120

\*Required Field

\*\*List company after Sampler(s) if not "CDM Smith"

For Field Team Completion: Completed by: KB QC by: [Signature]

For Data Entry:

Entered by: [Signature]QC by: [Signature]

23364

Event ID LC-020108Libby Water Sample & Location  
Field Sample Data SheetFSDS # **W - 100291**Address Lincoln County LandfillDate 12-19-12perty ID: AD-000196 Logbook # 101310 Pgs 12-13 Sampler(s) K. Beaudoin, S. Wilson

Data Item	1	2	3
* Location ID	AD-000196 <del>AD-000496</del> LRB 12-2012		
* Is this a new Location	Yes <input checked="" type="radio"/> No Revised (If No, "Z" through location section)	Yes <input type="radio"/> No Revised (If No, "Z" through location section)	Yes <input type="radio"/> No Revised (If No, "Z" through location section)
* Location Type			
* Location Description			
Location Area (ft <sup>2</sup> )			
Location Comment	LB 12-19-12		
Location Comment 2			
* Sample ID	<b>1R- 44818</b>	<b>1R- 44819</b>	<b>1R- 45180</b>
* Sample Time	1259		
* Sample ABS	<input checked="" type="radio"/> N Y	N Y	N Y
* Sample Venue	Indoor <del>Outdoor</del> NA	Indoor Outdoor NA	Indoor Outdoor NA
* Sample PrePostClear	<del>NA</del> Pre Post Clear: 1 <sup>st</sup> 2 <sup>nd</sup> 3 <sup>rd</sup> 4 <sup>th</sup> 5 <sup>th</sup> 6 <sup>th</sup> 7 <sup>th</sup>	NA Pre Post Clear: 1 <sup>st</sup> 2 <sup>nd</sup> 3 <sup>rd</sup> 4 <sup>th</sup> 5 <sup>th</sup> 6 <sup>th</sup> 7 <sup>th</sup>	NA Pre Post Clear: 1 <sup>st</sup> 2 <sup>nd</sup> 3 <sup>rd</sup> 4 <sup>th</sup> 5 <sup>th</sup> 6 <sup>th</sup> 7 <sup>th</sup>
* Sample Type	<del>FS</del> (FD) <del>FB</del> Other	FS FD FB Other	FS FD FB Other
Sample Parent ID			12-19-12
* Composite	Y <input checked="" type="radio"/> N	Y N	Y N
* Sample Aliquots	0 <input checked="" type="radio"/> Other NA	0 Other	0 Other
Sample Location Description	Field Blank		
Sample Field Comments	ND		

Charge # 2CL020108  
Event ID

Libby Water Sample & Location  
Field Sample Data Sheet

FSDS # **W - 100004**

Address Lincoln County Landfill

Date 12-20-12

Property ID AD-000196 Logbook # 10/3/0 Pgs 14 Sampler(s) K. Beaulieu, S. Wilson

Data Item	1	2	3
Location ID	<u>SP-113799</u>		
Is this a new Location	Yes <input checked="" type="radio"/> No Revised *If No, go to Visible Vermiculite	Yes <input checked="" type="radio"/> No Revised *If No, go to Visible Vermiculite	Yes <input type="radio"/> No Revised *If No, go to Visible Vermiculite
Location Type			
Location Description			
Location Area (ft <sup>2</sup> )			
Location Comment			
Sample ID	<u>IR-4580</u> <u>1R-44818</u> <sup>KBP</sup> <u>12-20-12</u>	<u>1R-44819</u>	
Sample Time	<u>1120</u>	<u>1135</u>	
Sample Venue	Indoor <input checked="" type="radio"/> Outdoor NA	Indoor <input checked="" type="radio"/> Outdoor NA	Indoor <input type="radio"/> Outdoor <input checked="" type="radio"/> NA
Sample PrePostClear	<input checked="" type="radio"/> NA Pre Post Clear: 1 <sup>st</sup> 2 <sup>nd</sup> 3 <sup>rd</sup> 4 <sup>th</sup> 5 <sup>th</sup> 6 <sup>th</sup> 7 <sup>th</sup>	<input checked="" type="radio"/> NA Pre Post Clear: 1 <sup>st</sup> 2 <sup>nd</sup> 3 <sup>rd</sup> 4 <sup>th</sup> 5 <sup>th</sup> 6 <sup>th</sup> 7 <sup>th</sup>	NA Pre Post Clear: 1 <sup>st</sup> 2 <sup>nd</sup> 3 <sup>rd</sup> 4 <sup>th</sup> 5 <sup>th</sup> 6 <sup>th</sup> 7 <sup>th</sup>
Sample Type	<input checked="" type="radio"/> FS <input type="radio"/> FD Other _____	<input checked="" type="radio"/> FS <input type="radio"/> FD Other _____	FS <input type="radio"/> FD Other _____
Sample Parent ID		<u>IR-44818</u> <sup>KBP</sup> <u>1R-4580</u> <u>12-20-12</u>	<u>12-20-12</u>
Composite Y/N	Y <input checked="" type="radio"/> N	Y <input checked="" type="radio"/> N	Y <input type="radio"/> N
Sample/Inspection Aliquots	30 <input checked="" type="radio"/> Other <u>NA</u>	30 <input checked="" type="radio"/> Other <u>NA</u>	30 Other _____
Sample Location Description	<u>CDM-MW-08</u>	<u>Dup-1-CDM-MW-8</u>	
Sample Field Comments	<b>ND</b>	<b>ND</b>	

V 110427

For Field Team Completion  
(Initials)

Completed by

QC by

For Data Entry

Entered by

QC by



*CompuChem*

A Division Of

Liberty Analytical Corp.

12/31/2012

TRACY DODGE

CDM FEDERAL PROGRAMS CORP.

60 Port Blvd., Suite 201

Libby, MT 59923

Subject:

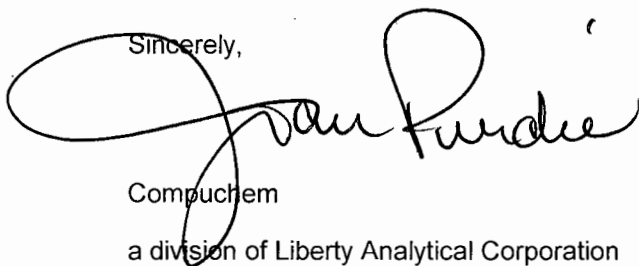
Report of Data - Project: LIBBY ASBESTOS TO-14/6402.DK1.002.S      WorkOrder: 1212075

Attn.: TRACY DODGE

Enclosed are the results of analytical work performed in accordance with the referenced account number. This report covers sample(s) appearing on the listing.

Thank you for selecting CompuChem for your sample analysis. If you should have questions or require additional analytical services, please contact your representative at 1-800-833-5097

Sincerely,



CompuChem

a division of Liberty Analytical Corporation

Attachment

TOTAL NUMBER

OF PAGES \_\_\_\_\_

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**CompuChem, a division of Liberty Analytical****Client:** CDM FEDERAL PROGRAMS CORP.**Work:** 1212075**Project:** LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DA\**Sdg:** 1212075

---

Lab ID	Client ID	Matrix	Date Sampled	Date Received
1212075-01	1R-44817	Water	12/18/2012 13:43	12/21/2012 10:37
1212075-02	1R-44818	Water	12/19/2012 12:59	12/21/2012 10:37
1212075-03	TB-1	Water	12/18/2012 00:00	12/21/2012 10:37
1212075-04	1R-45180	Water	12/20/2012 11:20	12/22/2012 11:24
1212075-05	1R-44819	Water	12/20/2012 11:35	12/22/2012 11:24
1212075-06	TB-2	Water	12/18/2012 00:00	12/22/2012 11:24

## ANALYSES DATA PACKAGE COVER PAGE

**Client:** CDM FEDERAL PROGRAMS CORP.

**Project:** LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

**Laboratory:** COMPUCHEM

**SDG:** 1212075

---

**Client Sample Id:**

1R-44817  
1R-44817  
1R-44817  
1R-44817  
1R-44818  
1R-44818  
1R-44818  
1R-44818  
1R-45180  
1R-45180  
1R-45180  
1R-45180  
1R-44819  
1R-44819  
1R-44819  
1R-44819

**Lab Sample Id:**

1212075-01  
1212075-01  
1212075-01  
1212075-01RE1  
1212075-02  
1212075-02  
1212075-02  
1212075-02  
1212075-04  
1212075-04  
1212075-04  
1212075-04  
1212075-05  
1212075-05  
1212075-05  
1212075-05

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the Electronic Data Deliverable has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature:

*Susan W Bass*

Name:

Susan Bass

Date:

12/30/2012

Title:

Senior Chemist



**CompuChem**

A Division Of

Liberty Analytical Corp.

**CompuChem****a Division of Liberty Analytical Corp.**

501 Madison Avenue

Cary, NC 27513

**SDG NARRATIVE****SDG # 1212075****Client: CDM FEDERAL PROGRAMS CORP.****Project: LIBBY ASBESTOS TO-14-6402.DK1.002.SAMPL-14 DAY**

The indicated Sample Delivery Group (SDG) consisting of four (4) water samples was received into the laboratory information management system (LIMS) on December 21 and 22, 2011 intact and in good condition with the Chain of Custody (COC) Records in order, unless otherwise noted in any attachments or Quality Assurance Notices. The cooler temperature indicator bottle was found with the samples and the samples temperature was 0.3 to 1.5 degrees Celsius. Temperature was recorded by IR temperature gun.

The samples were prepared and analyzed in accordance with SW846 6010C/6020A/7470A/9010C/9012B methodology for the requested metals, mercury, and cyanide.

**EQUATIONS FOR LIQUID SAMPLE CALCULATIONS:**

Equation for obtaining metals sample results in  $\mu\text{g/L}$  as presented on Analysis Data Sheet data sheets from ICP/MS instrument acquired results in  $\mu\text{g/L}$  (ppb).

$$\frac{C \times F}{I}$$

Where

C = concentration ( $\mu\text{g/L}$ )

F = final volume in liters after sample preparation

I = initial volume in liters

Example: Barium for sample 1R-44817

$$\frac{33.76672 \mu\text{g/L (C)} \times 0.05 \text{ L (F)}}{0.05 \text{ L (I)}} = 33.77 \mu\text{g/L reported as 200 U } \mu\text{g/L}$$

**INSTRUMENTAL QUALITY CONTROL:**

All calibration verification solutions (LLICV, LLCCV, ICV & CCV), blanks (ICB, & CCB), and interference check samples (ICSA & ICSAB) associated with this data were confirmed to be within SW-846 methodology.

### **SAMPLE PREPARATION QUALITY CONTROL:**

The sample preparation procedure verifications (LCSW & PBW) were found to be within acceptable ranges and the field samples were prepared and analyzed within the contract specified holding times.

### **MATRIX RELATED QUALITY CONTROL:**

The ICP sample matrix spike, CCN = 2122410-MS1 (1R-44817S) was found to be inside control limits.

The ICP/MS sample matrix spike, CCN = 2122409-MS1 (1R-44817S) was found to be inside control limits.

The mercury sample matrix spike, CCN = 2122411-MS1 (1R-44817S) was found to be inside control limits.

The cyanide sample matrix spike, CCN = 2122608-MS1 (1R-44817S) was found to be inside control limits.

The ICP sample matrix duplicate spike, CCN = 2122410-MSD1 (1R-44817SD) was found to be inside control limits.

The ICP/MS sample matrix duplicate spike, CCN = 2122409-MSD1 (1R-44817SD) was found to be inside control limits.

The mercury sample matrix duplicate spike, CCN = 2122411-MSD1 (1R-44817SD) was found to be inside control limits.

The cyanide sample matrix duplicate spike, CCN = 2122608-MSD1 (1R-44817SD) was found to be outside control limits.

The ICP sample duplicate, CCN = 2122410-DUP1 (1R-44817D) was found to be inside control limits.

The ICP/MS sample duplicate, CCN = 2122409-DUP1 (1R-44817D) was found to be inside control limits.

The mercury sample duplicate, CCN = 2122411-DUP1 (1R-44817D) was found to be inside control limits.

The cyanide sample duplicate, CCN = 2122608-DUP1 (1R-44817D) was found to be inside control limits.

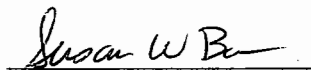
A five-fold serial dilution of sample, CCN = SDI1212075-01 (1R-44817L) was performed in accordance with SW-846 requirements for ICP and ICP/MS analysis.

The adjusted sample concentration was inside control limits.

I certify that the tests used in this report meet all requirements of the NELAC standards unless otherwise stated in the SDG narrative or QA notice.



I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on CD has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

A handwritten signature in black ink, appearing to read "Susan W. Bass", is written over a horizontal line.

Susan W. Bass  
Senior Chemist  
December 30, 2012

## INORGANIC DATA REPORTING QUALIFIERS

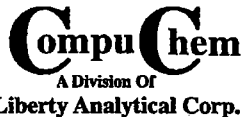
On the Form I, under the column labeled "Q" for qualifier, each result is flagged with the specific data reporting qualifiers listed below, as appropriate. The qualifiers used are:

- U : This flag indicates the compound was analyzed for, not detected and is reported as less than the Method Detection Limit (MDL) (or as defined by the client). The Reporting Limit (RL), or Limit of Quantitation (LOQ), and the MDL will be adjusted to reflect any dilution or concentration of the sample and, for soils, the percent moisture.
- J : This flag indicates the reported result is an estimated value. The flag is used when an analyte is detected and the result is less than the adjusted RL/LOQ but equal to or greater than the MDL.
- Q : This flag denotes that one or more quality control criteria have failed (e.g., LCS recovery, Continuing Calibration Verification, CCV, and interference check standards for ICP-AES/ICP-MS) and reanalyses can't be performed. The Q flag is applied to all specific analyte(s) in all samples associated with the failed quality control criteria.
- B : This flag is used when the analyte is found in the associated method or calibration blank as well as in the sample. It indicates probable blank contamination and warns the data user to take appropriate action. The combination of flags BU or UB is not an allowable policy. Blank contaminants are flagged B only when they are detected in the sample.
- D : This flag is applied to an analyte when the reported result is based on a dilution.
- X/Y/Z : Other specific flags may be required to properly define the results. If used, the flags will be fully described in the SDG Narrative. The laboratory-defined flags are limited to X, Y, and Z.

**The extensions: D, S, SD, L, and A are added to the end of the Client ID and represent the following:**

- D – Matrix Duplicate**
- S – Matrix Spike**
- SD – Matrix Spike Duplicate**
- L – Serial Dilution**
- A – Post Digestion Spike**

Revision 0 (11-09-2010)



Phone: 919-379-4100 Fax 919-379-4040

**26584**

Page 1 of 1

Courier Fed-Ex - 7943 6036 1831

Airbill No. 7943 6038 7989

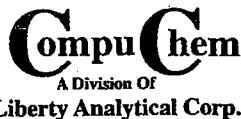
Sampling Complete? Y or **(N)** 7943 6220 5240

Client/Reporting Information				Project Information										Requested Analysis (include method and bottle type)										Matrices	
Company Name				Project Name										Sampling Location										pH / Sample Info (Lab Use)	
Address				Turnaround time										Batch QC or Project Specific? If Specific, which Sample ID?										Ground water	
City				Are aqueous samples field filtered for metals? Y or N										Are high concentrations expected? Y or N If yes, which ID(s)?										Waste water	
State				Are aqueous samples field filtered for metals? Y or N										Are high concentrations expected? Y or N If yes, which ID(s)?										Surface water	
Zip				Are aqueous samples field filtered for metals? Y or N										Are high concentrations expected? Y or N If yes, which ID(s)?										Soil/Sediment	
Project Contact				Are aqueous samples field filtered for metals? Y or N										Are high concentrations expected? Y or N If yes, which ID(s)?										Trip Blank	
Phone #				Are aqueous samples field filtered for metals? Y or N										Are high concentrations expected? Y or N If yes, which ID(s)?										Rinsate	
Sampler's Name				Are aqueous samples field filtered for metals? Y or N										Are high concentrations expected? Y or N If yes, which ID(s)?										Wipe	
CompuChem No (Lab Use)				Are aqueous samples field filtered for metals? Y or N										Are high concentrations expected? Y or N If yes, which ID(s)?										Other	
1212075-01				12/13/12 13:43										12/13/12 13:43										1212077-01	
1212075-02				12/13/12 12:59										12/13/12 12:59										1212077-02	
1212075-03				12/13/12 12:59										12/13/12 12:59										1212077-03	
1212075-04				12/13/12 12:59										12/13/12 12:59										1212077-04	
1212075-05				12/13/12 12:59										12/13/12 12:59										1212077-05	
1212075-06				12/13/12 12:59										12/13/12 12:59										1212077-06	
1212075-07				12/13/12 12:59										12/13/12 12:59										1212077-07	
1212075-08				12/13/12 12:59										12/13/12 12:59										1212077-08	
1212075-09				12/13/12 12:59										12/13/12 12:59										1212077-09	
1212075-10				12/13/12 12:59										12/13/12 12:59										1212077-10	
1212075-11				12/13/12 12:59										12/13/12 12:59										1212077-11	
1212075-12				12/13/12 12:59										12/13/12 12:59										1212077-12	
1212075-13				12/13/12 12:59										12/13/12 12:59										1212077-13	
1212075-14				12/13/12 12:59										12/13/12 12:59										1212077-14	
1212075-15				12/13/12 12:59										12/13/12 12:59										1212077-15	
1212075-16				12/13/12 12:59										12/13/12 12:59										1212077-16	
1212075-17				12/13/12 12:59										12/13/12 12:59										1212077-17	
1212075-18				12/13/12 12:59										12/13/12 12:59										1212077-18	
1212075-19				12/13/12 12:59										12/13/12 12:59										1212077-19	
1212075-20				12/13/12 12:59										12/13/12 12:59										1212077-20	
1212075-21				12/13/12 12:59										12/13/12 12:59										1212077-21	
1212075-22				12/13/12 12:59										12/13/12 12:59										1212077-22	
1212075-23				12/13/12 12:59										12/13/12 12:59										1212077-23	
1212075-24				12/13/12 12:59										12/13/12 12:59										1212077-24	
1212075-25				12/13/12 12:59										12/13/12 12:59										1212077-25	
1212075-26				12/13/12 12:59										12/13/12 12:59										1212077-26	
1212075-27				12/13/12 12:59										12/13/12 12:59										1212077-27	
1212075-28				12/13/12 12:59										12/13/12 12:59										1212077-28	
1212075-29				12/13/12 12:59										12/13/12 12:59										1212077-29	
1212075-30				12/13/12 12:59										12/13/12 12:59										1212077-30	
1212075-31				12/13/12 12:59										12/13/12 12:59										1212077-31	
1212075-32				12/13/12 12:59										12/13/12 12:59										1212077-32	
1212075-33				12/13/12 12:59										12/13/12 12:59										1212077-33	
1212075-34				12/13/12 12:59										12/13/12 12:59										1212077-34	
1212075-35				12/13/12 12:59										12/13/12 12:59										1212077-35	
1212075-36				12/13/12 12:59										12/13/12 12:59										1212077-36	
1212075-37				12/13/12 12:59										12/13/12 12:59										1212077-37	
1212075-38				12/13/12 12:59										12/13/12 12:59										1212077-38	
1212075-39				12/13/12 12:59										12/13/12 12:59										1212077-39	
1212075-40				12/13/12 12:59										12/13/12 12:59										1212077-	

Samples stored 60 days after date report mailed at no extra charge.

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IR GUN: SN0015



Cary, NC 27513

**26584**

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Courier Fed-Ex - 7943 6036 1831

Airbill No. 7943 6038 7989

Sampling Complete? Y or **(N)** 7943 6220 5346

[illegible]

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**CompuChem**  
A Division Of  
Liberty Analytical Corp.

# CHAIN OF CUSTODY

501 Madison Ave.

Cary, NC 27513

Phone: 919-379-4100 Fax 919-379-4040

26584

Page 1 of 1

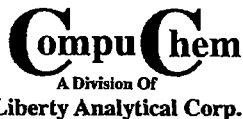
Courier Fed-Ex - 7943 6036 1831  
Airbill No. 7943 6038 7989  
Sampling Complete? Y or N 7943 6220 5246

Client/Reporting Information				Project Information				Requested Analysis (include method and bottle type)												Matrices	
Company Name <u>CDM Smith</u>				Project Name <u>Libby, MT Asbestos Project</u>				<u>Disolved Metals + Mercury</u> <u>6020A/6010C/9470A (DL Poly)</u> <u>Cyanide/9012B (C) 250mL Poly</u> <u>Volatiles Organic Compounds</u> <u>8260B (3) 40mL VOA vials</u> <u>Chloride (Cl) / Sulfate (SO4)</u> <u>10 300.0 (A) 125mL Poly</u> <u>Nitrate - Nitrite</u> <u>353.2 (C) 250mL Poly</u> <u>Chemical Oxygen Demand</u> <u>Substrate (C) 250mL Poly</u> <u>LYPH MADEP</u> <u>(2) 40mL VOA vials</u> <u>EPH MADEP</u> <u>(2) / L Amber Glass</u>												<u>GW</u> Ground water WW - Waste water SW - Surface water SO - Soil/Sediment <u>TB</u> Trip Blank RI - Rinse WP - Wipe O - Other	
Address <u>600 Port Blvd Ste 201</u>				Sampling Location <u>Libby, MT</u>																	
City <u>Libby</u> State <u>MT</u> Zip <u>59923</u>				Turnaround time <u>14 Days</u>																	
Project Contact <u>Phyllis Haugen</u>				Batch QC or Project Specific? If Specific, which Sample ID? <u>IR-44817</u> <u>MS/MSD</u>																	
Phone # <u>406-293-8595 X33</u>				Are aqueous samples field filtered for metals? Y or N <u>Y</u>																	
Sampler's Name <u>Kris Beaudoin</u>				Are high concentrations expected? Y or <u>N</u> If yes, which ID(s)?																pH / Sample Info (Lab Use)	
CompuChem No (Lab Use)	Field ID	Collection		Matrix	# of bottles	Number of Preserved Bottles										Other	NONE				
		Date	Time			HCl	NaOH	HNO3	H2SO4	MEOH											
	<u>IR-44817</u>	<u>12/13/12</u>	<u>13:43</u>	<u>GW</u>	<u>36</u>	<u>15</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>		
	<u>TB-1</u>	<u>NA</u>	<u>NA</u>	<u>TB</u>	<u>3</u>	<u>3</u>															
	<u>IR-44818</u>	<u>12/17/12</u>	<u>12:57</u>	<u>GW</u>	<u>12</u>	<u>5</u>	<u>1</u>	<u>1</u>	<u>4</u>	<u>0</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>		

Lab Use Only		Comments	
Sample Unpacked By: <u>[Signature]</u>	Cyanide samples checked for sulfide & chlorine? Y or NA		
Sample Order Entry By: <u>[Signature]</u>	625 & Phenol samples checked for chlorine? Y or NA		
Samples Received in Good Condition? Y or N	608 samples checked for pH between 5.0-9.0? Y or NA		
If no, explain:			
Sample Custody			
Relinquished by: <u>Phyllis Haugen - CDM Smith</u>	Date/Time: <u>12/20/12 13:00</u>	Received by: <u>[Signature]</u>	Date/Time: <u>12-21-12</u>
Relinquished by:	Date/Time:	Received by:	Date/Time:
Subcontract? Y or N If yes, where?	Custody Seal(s) intact? Y or N	On Ice? Y or N	Cooler Temp: <u>1.5 °C</u>

Samples stored 60 days after date report mailed at no extra charge.

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Cary, NC 27513

26584

Page      of     

Courier *Fel-Ex - 7943 6036 1831*

Airbill No. 7943 6038 7989

Sampling Complete? Y or (N) 7943 6220 5240

[illegible]

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# CHAIN OF CUSTODY

501 Madison Ave.

Cary, NC 27513

Phone: 919-379-4100 Fax 919-379-4040

26583

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Courier Fed-Ex - 7943 7340 6690  
Airbill No. 7943 7394 8532  
Sampling Complete? ☒ Y or N

Client/Reporting Information				Project Information				Requested Analysis (include method and bottle type)												Matrices									
Company Name CDM Smith				Project Name Libby, MT Asbestos Project				Dissolved Metals + Mercury 6030A/6010C/7470A (C) 1 Poly Cyanide 9010C/9012B (C) 250 mL Poly Volatile Organic Compounds 8260B (3)-40 mL Vials Chloride (Cl) / Sulfate (SO4) 10 300.0 (D)-125 mL Poly Nitrate - Nitrite 353.2 (C) 250 mL Poly Chemical Oxygen Demand - (546 Contract) (1) 250 mL Poly VPH MADEP (2) 40 mL Vial EPH MADEP (2) 1 L Amber Glass												GW - Ground water WW - Waste water SW - Surface water SO - Soil/Sediment TB - Trip Blank RI - Rinsate WP - Wipe O - Other									
Address 60 Port Blvd Ste 201				Sampling Location Libby, MT																Turnaround time				Batch QC or Project Specific? If Specific, which Sample ID?				Are aqueous samples field filtered for metals? <input checked="" type="checkbox"/> Y or N	
City State Zip Libby MT 59923				Project Contact Phyllis Haugen				Phone # 406-293-8595 X 33				Sampler's Name Kris Beaudoin				pH / Sample Info (Lab Use)													
CompuChem No. (Lab Use)		Field ID		Collection		# of bottles		Number of Preserved Bottles																					
				Date	Time	Matrix		HCl	NaOH	HNO3	H2SO4	MEOH	Other	NONE															
12/20/05-04		1R-45180		12/20/05	11:20	GW	12	5	1	1	4	0	1													12/20/05			
✓ -05		1R-44819		12/20/05	11:35	GW	12	5	1	1	4	0	1													-04			
						GW	12	5	1	1	4	0	1																
12/20/05-00		TB-2		NA	NA	TB	1																						
							3																						

Lab Use Only				Comments			
Sample Unpacked By: <i>[Signature]</i>				Cyanide samples checked for sulfide & chlorine? Y or NA			
Sample Order Entry By: <i>[Signature]</i>				625 & Phenol samples checked for chlorine? Y or NA			
Samples Received in Good Condition? Y or N				608 samples checked for pH between 5.0-9.0? Y or NA			
If no, explain:							
Sample Custody							
Relinquished by: <i>Phyllis Haugen - CDM Smith</i>				Date/Time: 12/21/12 13:00		Received by: <i>[Signature]</i>	
Relinquished by:				Date/Time:		Date/Time: 12/22/12 1124	
Subcontract? Y or N If yes, where? MADEP/PH & EPH + COD to ENDO/CAR				Custody Seal(s) intact? Y or N		On Ice? Y or N	
Samples stored 60 days after date report mailed at no extra charge.						Cooler Temp: 0.4, 0.3 °C	



Cary, NC 27513

Phone: 919-379-4100 Fax 919-379-4040

Page 1 of 1

Sampling Complete? Y or N

Client/Reporting Information				Project Information				Requested Analysis (include method and bottle type)												Matrices		
Company Name <b>C.M. Smith</b>				Project Name <b>Libby, MT Asbestos Project</b>				<div style="display: flex; flex-direction: row-reverse; justify-content: space-between; padding: 5px;"> <div>           Dissolved Metals + Mercury            6020A/6010C/7470A (C) 1 Poly            Cyanide            9010C/9012B (C) 250 mL            Volatile Organic Compounds            8960B (37-40 mL) Vials            Chloride (Cl) / Sulfate (SO4)            110 300.0 (11-125 mL Poly)            Nitrate - Nitrite            353.2 (C) 250 mL Poly            Chemical Oxygen Demand -            Sub Contract (C) 250 mL Poly            VPH MADEP            (C) 40 mL vial            EPH MADEP            (C) 1 L Amber Glass         </div> <div>           Ground water            WW - Waste water            SW - Surface water            SO - Soil Sediment            TB - Trip Blank            RI - Rinsate            WP - Wipe            O - Other         </div> </div>												pH / Sample Info (Lab Use)		
Address <b>60 Port Blvd Ste 201</b>				Sampling Location <b>Libby, MT</b>																		
City <b>Libby</b> State <b>MT</b> Zip <b>59923</b>				Turnaround time																		
Project Contact <b>Phyllis Haugen</b>				Batch QC or Project Specific? If Specific, which Sample ID?																		
Phone # <b>406-293-8595 x 33</b>				Are aqueous samples field filtered for metals? <input checked="" type="checkbox"/> Y or N																		
Sampler's Name <b>Kris Beaudoin</b>				Are high concentrations expected? Y or N <input checked="" type="checkbox"/> If yes, which ID(s)?																		
CompuChem No (Lab Use)	Field ID	Collection		Matrix	# of bottles	Number of Preserved Bottles								Dissolved Metals + Mercury	Cyanide	Volatile Organic Compounds	Chloride (Cl) / Sulfate (SO4)	Nitrate - Nitrite	Chemical Oxygen Demand - Sub Contract	VPH MADEP	EPH MADEP	pH / Sample Info (Lab Use)
		Date	Time			HCl	NaOH	HNO3	H2SO4	MEOH	Other											
	1R-45180	7/20/12	11:20	GW	12	5	1	1	4	0	1											
	1R-44819	12/20/12	11:35	GW	12	5	1	1	4	0	1											
				GW	12	5	1	1	4	0	1	12/20/12										
	TB-2	NA	NA	TB	3							12/20/12										
<div style="display: flex; justify-content: space-between;"> <div>           Sample Unpacked By: <b>[Signature]</b>            Sample Order Entry By: <b>[Signature]</b>            Samples Received in Good Condition? <input checked="" type="checkbox"/> Y or N            If no, explain:         </div> <div>           Cyanide samples checked for sulfide &amp; chloride? Y or NA            625 &amp; Phenol samples checked for chlorine? Y or NA            608 samples checked for pH between 5.0-9.0? Y or NA         </div> </div>																						
Relinquished by: <b>Phyllis Haugen - C.M. Smith</b> Relinquished by:												Date/Time: <b>12/21/12 13:00</b> Received by: <b>[Signature]</b> Date/Time:										
Subcontract: <input checked="" type="checkbox"/> Y or N If yes, where? <b>MADEP VPH/EPH/CO DENLO/CAT</b> Samples stored 60 days after date report mailed at no extra charge.												Custody Seal(s) intact? <input checked="" type="checkbox"/> Y or N On Ice <input checked="" type="checkbox"/> Y or N Cooler Temp: <b>0.4</b> °C										

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Sampling Complete? Y or N

Client/Reporting Information						Project Information							Requested Analysis (include method and bottle type)										Matrices		
Company Name C.M. Smith						Project Name Libby MT Asbestos Project																	<input checked="" type="checkbox"/> GW Ground water		
Address 60 Port Blvd Ste 201						Sampling Location Libby MT																	WW - Waste water		
City State Zip Libby MT 59933						Turnaround time																	SW - Surface water		
Project Contact Phyllis Haugen						Batch QC or Project Specific? If Specific, which Sample ID?																	SO - Soil Sediment		
Phone # 406-893-8595 x 33						Are aqueous samples field filtered for metals? <input checked="" type="checkbox"/> Y or N																	TB Trip Blank		
Sampler's Name Kris Beaudoin						Are high concentrations expected? <input checked="" type="checkbox"/> Y or N If yes, which ID(s)?																	RI - Rinsate		
CompuChem No. (Lab Use)		Field ID		Collection		# of bottles	Number of Preserved Bottles							Dissolved Metals + Mercury 6030A/6010C/7470A(C) L Poly Cyanide 4010C/19012B (C) 350 mL Poly Volatiles Organic Compounds 8960 B (3-40 mL) Vials Chloride (Cl) / Sulfate (SO4) 10 300.0 (1-125 mL Poly) Nitrate - Nitrite 353.2 (C) 350 mL Poly Chemical Oxygen Demand - Sub Centract (C) 250 mL Poly VPH MADEP (C) 40 mL vial EPH MADEP (C) 1 L Amber Glass										pH / Sample Info (Lab Use)	
				Date	Time		Matrix	HCl	NaOH	HNO3	H2SO4	MEOH	Other												
		IR-45180	7/2/12	11:20	GW	12	5	1	1	4	0	1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
		IR-44819	12/20/12	11:35	GW	12	5	1	1	4	0	1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
		TB-2	NA	NA	TB	12	5	1	1	4	0	1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
						3																			
Lab Use Only												Comments													
Sample Unpacked By:						Cyanide samples checked for sulfide & chlorine? Y or NA																			
Sample Order Entry By:						625 & Phenol samples checked for chlorine? Y or NA																			
Samples Received in Good Condition? Y or N						608 samples checked for pH between 5.0-9.0? Y or NA																			
If no, explain:																									
Sample Custody																									
Relinquished by: Phyllis Haugen C.M. Smith						Date/Time: 12/21/12 13:00						Received by: [Signature]						Date/Time: 12/22/12 1124							
Relinquished by:						Date/Time:						Received by:						Date/Time:							
Subcontact? Y or N If yes, where?						Custody Seal(s) intact? <input checked="" type="checkbox"/> Y or N						On Ice? <input checked="" type="checkbox"/> Y or N						Cooler Temp: 0.3 °C							
Samples stored 60 days after date report mailed at no extra charge.																									

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## WORK ORDER

Printed: 12/22/2012 12:52:57PM

1212075

## COMPUCEM

<b>Client:</b> CDM FEDERAL PROGRAMS CORP.	<b>Project Manager:</b> Cathy Dover
<b>Project:</b> LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DA	<b>Project Number:</b> LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 I
<b>SDG:</b> 1212075	<b>Case:</b>
	<b>Status:</b> Received

Report To:

CDM FEDERAL PROGRAMS CORP.  
TRACY DODGE  
60 Port Blvd., Suite 201  
Libby, MT 59923  
Phone: (406) 293-8595  
Fax: -

Invoice To:

CDM FEDERAL PROGRAMS CORP.  
SUBCONTRACT MANAGER  
14420 ALBEMARLE POINT PLACE, SUITE 210  
CHANTILLY, VA 20151  
Phone :-  
Fax: -

Date Due: 01/04/2013 00:00 (13 day TAT)

Received By: Cathy Dover

Date Received: 12/22/2012 11:24

Logged In By: Cathy Dover

Date Logged In: 12/21/2012 12:52

J & B Flags?: NO	TICS?: NO	Deliverable: Style 3	EDD : 68) LATA EXCEL
Metals ND to? RL/CRQL	Spike Level: FULL Spike		
USE 1212075-01 FOR QC*VOC 25ML=LIBBY.SUB*6020A MTL=Sb,As,Be,Cd,Pb,Se,Ti*6010C MTL=Ba,Cr,Co,Cu,Fe,Ni,Ag,V & Zn*HG 7470A*NO2/NO3 353.2 IN H2SO4 PRES.CONTAINER*IC300=CHL/SO4*CN 9010C/9012B*GENERATE THE CUSTOM NO MDL REPORT			

Analysis	Due	TAT	Expires	Received	Comments
<b>1212075-01 1R-44817 [Water] Sampled 12/18/2012 13:43 Eastern</b>				<b>USE FOR QC</b>	
NITRATE-NITRITE-N 353.2	01/04/2013 16:00	13	02/04/2013 13:43	12/21/2012 10:37	
6010C DISS. METALS VARIABLE Invoice	01/04/2013 16:00	13	06/16/2013 13:43	12/21/2012 10:37	
VOA-8260B 25ML	01/04/2013 16:00	13	01/01/2013 13:43	12/21/2012 10:37	SubList = VOA - LIBBY (12-31-11)
6020A ICP MS (UPDATE IV)	01/04/2013 16:00	13	06/16/2013 13:43	12/21/2012 10:37	
7470A 7471B Mercury	01/04/2013 16:00	13	01/15/2013 13:43	12/21/2012 10:37	
9010C 9012B CYANIDE	01/04/2013 16:00	13	01/01/2013 13:43	12/21/2012 10:37	
DISS. 6020A ICP MS Invoice	01/04/2013 16:00	13	06/16/2013 13:43	12/21/2012 10:37	
6010C METALS	01/04/2013 16:00	13	06/16/2013 13:43	12/21/2012 10:37	
IC 300 Anions	01/04/2013 16:00	13	01/15/2013 13:43	12/21/2012 10:37	
<b>1212075-02 1R-44818 [Water] Sampled 12/19/2012 12:59 Eastern</b>					
6010C METALS	01/04/2013 16:00	13	06/17/2013 12:59	12/21/2012 10:37	
6020A ICP MS (UPDATE IV)	01/04/2013 16:00	13	06/17/2013 12:59	12/21/2012 10:37	
7470A 7471B Mercury	01/04/2013 16:00	13	01/16/2013 12:59	12/21/2012 10:37	
9010C 9012B CYANIDE	01/04/2013 16:00	13	01/02/2013 12:59	12/21/2012 10:37	
DISS. 6020A ICP MS Invoice	01/04/2013 16:00	13	06/17/2013 12:59	12/21/2012 10:37	
IC 300 Anions	01/04/2013 16:00	13	01/16/2013 12:59	12/21/2012 10:37	
NITRATE-NITRITE-N 353.2	01/04/2013 16:00	13	02/05/2013 12:59	12/21/2012 10:37	
6010C DISS. METALS VARIABLE Invoice	01/04/2013 16:00	13	06/17/2013 12:59	12/21/2012 10:37	
VOA-8260B 25ML	01/04/2013 16:00	13	01/02/2013 12:59	12/21/2012 10:37	SubList = VOA - LIBBY (12-31-11)

## WORK ORDER

Printed: 12/22/2012 12:52:57PM

1212075

## COMPUCHEM

Client: CDM FEDERAL PROGRAMS CORP.	Project Manager: Cathy Dover
Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DA	Project Number: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 I
SDG: 1212075 CASE:	Status: Batched

Analysis	Due	TAT	Expires	Comments
<b>1212075-03 TB-1 [Water] Sampled 12/18/2012 00:00 Eastern</b>				
				TRIP BLK
VOA-8260B 25ML	01/04/2013 16:00	13	01/01/2013 00:00	12/21/2012 10:37 SubList = VOA - LIBBY (12-31-11)
<b>1212075-04 1R-45180 [Water] Sampled 12/20/2012 11:20 Eastern</b>				
6010C DISS. METALS VARIABLE Invoice	01/04/2013 16:00	13	06/18/2013 11:20	12/22/2012 11:24
6010C METALS	01/04/2013 16:00	13	06/18/2013 11:20	12/22/2012 11:24
6020A ICP MS (UPDATE IV)	01/04/2013 16:00	13	06/18/2013 11:20	12/22/2012 11:24
7470A 7471B Mercury	01/04/2013 16:00	13	01/17/2013 11:20	12/22/2012 11:24
9010C 9012B CYANIDE	01/04/2013 16:00	13	01/03/2013 11:20	12/22/2012 11:24
DISS. 6020A ICP MS Invoice	01/04/2013 16:00	13	06/18/2013 11:20	12/22/2012 11:24
IC 300 Anions	01/04/2013 16:00	13	01/17/2013 11:20	12/22/2012 11:24
NITRATE-NITRITE-N 353.2	01/04/2013 16:00	13	02/06/2013 11:20	12/22/2012 11:24
VOA-8260B 25ML	01/04/2013 16:00	13	01/03/2013 11:20	12/22/2012 11:24 SubList = VOA - LIBBY (12-31-11)
<b>1212075-05 1R-44819 [Water] Sampled 12/20/2012 11:35 Eastern</b>				
6010C DISS. METALS VARIABLE Invoice	01/04/2013 16:00	13	06/18/2013 11:35	12/22/2012 11:24
VOA-8260B 25ML	01/04/2013 16:00	13	01/03/2013 11:35	12/22/2012 11:24 SubList = VOA - LIBBY (12-31-11)
6020A ICP MS (UPDATE IV)	01/04/2013 16:00	13	06/18/2013 11:35	12/22/2012 11:24
7470A 7471B Mercury	01/04/2013 16:00	13	01/17/2013 11:35	12/22/2012 11:24
9010C 9012B CYANIDE	01/04/2013 16:00	13	01/03/2013 11:35	12/22/2012 11:24
DISS. 6020A ICP MS Invoice	01/04/2013 16:00	13	06/18/2013 11:35	12/22/2012 11:24
IC 300 Anions	01/04/2013 16:00	13	01/17/2013 11:35	12/22/2012 11:24
NITRATE-NITRITE-N 353.2	01/04/2013 16:00	13	02/06/2013 11:35	12/22/2012 11:24
6010C METALS	01/04/2013 16:00	13	06/18/2013 11:35	12/22/2012 11:24
<b>1212075-06 TB-2 [Water] Sampled 12/18/2012 00:00 Eastern</b>				
				TRIP BLK
VOA-8260B 25ML	01/04/2013 16:00	13	01/01/2013 00:00	12/22/2012 11:24 SubList = VOA - LIBBY (12-31-11)

## INTERNAL DIGESTION COC

2122410

COMPUCHEM

Printed: 12/24/2012 11:34:37AM

Matrix: Water

Prepared using: METALS - EPA 3010A

Lab Number	Client ID	Sample Type	
1212075-01	1R-44817	Sample	
1212075-02	1R-44818	Sample	
1212075-04	1R-45180	Sample	
1212075-05	1R-44819	Sample	
2122410-BLK1	PBW	Blank	
2122410-BS1	LCSW	LCS	
2122410-DUP1	1R-44817D	Duplicate	
2122410-MS1	1R-44817S	Matrix Spike	
2122410-MSD1	1R-44817SD	Matrix Spike Dup	

S. Bolton

Relinquished By

FJH

12-26-12 1545

Date

12/28/12/1030

Relinquished By

JC

Date

12/30/12/1005

Relinquished By

Date

Relinquished By

Date

ICP Storage

Received By

FJH

12-26-12 1545

Date

12/28/12/1030

Received By

FJH

Date

12/30/12/1005

Received By

Date

Received By

Date

## INTERNAL DIGESTION COC

2122409

COMPUCHEM

Printed: 12/24/2012 11:30:18AM

Matrix: Water

Prepared using: METALS - EPA 3005A

Lab Number	Client ID	Sample Type	
1212075-01	1R-44817	Sample	
1212075-02	1R-44818	Sample	
1212075-04	1R-45180	Sample	
1212075-05	1R-44819	Sample	
2122409-BLK1	PBW	Blank	
2122409-BS1	LCSW	LCS	
2122409-DUP1	1R-44817D	Duplicate	
2122409-MS1	1R-44817S	Matrix Spike	
2122409-MSD1	1R-44817SD	Matrix Spike Dup	

Relinquished By

Date

Received By

Date

Relinquished By

Date

Received By

Date

Relinquished By

Date

Received By

Date

Relinquished By

Date

Received By

Date

## Metals Internal Chain of Custody Sheet

Batch 2122409 Status: Batched

Analysis: 6020A ICP MS (UPDATE IV)

Lab Id	Client_Id	Received	Container	Extraction	Preservative	Matrix	Due Date	Cust Date
1212075-01 J	1R-44817	12/21/12	3s_1000mL Plastic, HNO3	EPA 3005A	Add HNO3 to pH<2	Water	1/4/2013 4	
1212075-02 D	1R-44818	12/21/12	3s_1000mL Plastic, HNO3	EPA 3005A	Add HNO3 to pH<2	Water	1/4/2013 4	
1212075-04 D	1R-45180	12/22/12	3s_1000mL Plastic, HNO3	EPA 3005A	Add HNO3 to pH<2	Water	1/4/2013 4	
1212075-05 D	1R-44819	12/22/12	3s_1000mL Plastic, HNO3	EPA 3005A	Add HNO3 to pH<2	Water	1/4/2013 4	

Ambient Stg.12-26-12 1010

Relinquished By

Date/Time

S. Bolton12-26-12 1600

Relinquished By

Date/Time

Relinquished By

Date/Time

Relinquished By

Date/Time

S. Bolton12-26-12 1010

Received By

Date/Time

Ambient Stg.12-26-12 1600

Received By

Date/Time

Received By

Date/Time

Received By

Date/Time

# Metals Internal Chain of Custody Sheet

Batch 2122608 Status: Batched

Analysis: 9010C 9012B CYANIDE

Lab Id	Client_Id	Received	Container	Extraction	Preservative	Matrix	Due Date	Cust Date
1212075-01 M	1R-44817	12/21/12	3h_250mL Plastic, cool, NaOH	9010C	pH>12 NaOH, Cool 4	Water	1/4/2013 4	
1212075-02 E	1R-44818	12/21/12	3h_250mL Plastic, cool, NaOH	9010C	pH>12 NaOH, Cool 4	Water	1/4/2013 4	
1212075-04 E	1R-45180	12/22/12	3h_250mL Plastic, cool, NaOH	9010C	pH>12 NaOH, Cool 4	Water	1/4/2013 4	
1212075-05 E	1R-44819	12/22/12	3h_250mL Plastic, cool, NaOH	9010C	pH>12 NaOH, Cool 4	Water	1/4/2013 4	

Cooler #1      12-26-12 1455  
 Relinquished By      Date/Time  
S. Bolton      12-26-12 1600  
 Relinquished By      Date/Time  
 \_\_\_\_\_  
 Relinquished By      Date/Time  
 \_\_\_\_\_  
 Relinquished By      Date/Time

S. Bolton      12-26-12 1455  
 Received By      Date/Time  
Cooler #1      12-26-12 1600  
 Received By      Date/Time  
 \_\_\_\_\_  
 Received By      Date/Time  
 \_\_\_\_\_  
 Received By      Date/Time

## INTERNAL DIGESTION COC

2122608

COMPUCHEM

Printed: 12/26/2012 2:53:56PM

Matrix: Water

Prepared using: METALS - 9010C

Lab Number	Client ID	Sample Type	
1212075-01	1R-44817	Sample	
1212075-02	1R-44818	Sample	
1212075-04	1R-45180	Sample	
1212075-05	1R-44819	Sample	
2122608-BLK1	PBW	Blank	
2122608-BS1	LCSW	LCS	
2122608-DUP1	1R-44817D	Duplicate	
2122608-MS1	1R-44817S	Matrix Spike	
2122608-MSD1	1R-44817SD	Matrix Spike Dup	

Relinquished By

S. Bolton

Date

12-26-12 1720

12/26/12 0845

Relinquished By

Date

12/27/12 1350

Relinquished By

Date

Relinquished By

Date

Received By

CN Storage

Date

12-26-12 1720

12/27/12 0845

Received By

Date

12/27/12 1350

Received By

Date

Received By

Date



## ANALYSIS DATA SHEET

1R-44817

Client: CDM FEDERAL PROGRAMS CORP. SDG: 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAYLab ID: 1212075-01 % Solid: Matrix: Water Sampled: 12/18/12 Received: 12/21/12

CAS NO.	Analyte	Conc. (ug/L)	MDL	RL	D.F.	Q	Method	Sequence	Analyzed
7440-36-0	Antimony (dissolved)		0.0260	2.00	1	U	EPA 6020A	2L26017	12/26/12 17:08
7440-38-2	Arsenic (dissolved)		0.140	1.00	1	U	EPA 6020A	2L26017	12/26/12 17:08
7440-39-3	Barium (dissolved)		66.5	200	1	U	EPA 6010C	2L30001	12/28/12 14:13
7440-41-7	Beryllium (dissolved)		0.0330	1.00	1	U	EPA 6020A	2L26017	12/26/12 17:08
7440-43-9	Cadmium (dissolved)		0.0110	1.00	1	U	EPA 6020A	2L26017	12/26/12 17:08
7440-47-3	Chromium (dissolved)		3.76	10.0	1	U	EPA 6010C	2L30001	12/28/12 14:13
7440-48-4	Cobalt (dissolved)		7.33	20.0	1	U	EPA 6010C	2L30001	12/28/12 14:13
7440-50-8	Copper (dissolved)		0.910	5.00	1	U	EPA 6010C	2L30001	12/28/12 14:13
57-12-5	Cyanide		2.50	10.0	1	U	EPA 9010C/9012B	2L27010	12/27/12 13:11
7439-89-6	Iron (dissolved)		69.4	200	1	U	EPA 6010C	2L30001	12/28/12 14:13
7439-92-1	Lead (dissolved)		0.0210	1.00	1	U	EPA 6020A	2L26017	12/26/12 17:08
7439-97-6	Mercury		0.0355	0.200	1	U	EPA 7470A	2L27007	12/27/12 10:33
7440-02-0	Nickel (dissolved)		3.43	10.0	1	U	EPA 6010C	2L30001	12/28/12 14:13
7782-49-2	Selenium (dissolved)		0.0900	5.00	1	U	EPA 6020A	2L26017	12/26/12 17:08
7440-22-4	Silver (dissolved)		2.02	5.00	1	U	EPA 6010C	2L30001	12/28/12 14:13
7440-28-0	Thallium (dissolved)		0.0150	1.00	1	U	EPA 6020A	2L26017	12/26/12 17:08
7440-62-2	Vanadium (dissolved)		6.52	20.0	1	U	EPA 6010C	2L30001	12/28/12 14:13
7440-66-6	Zinc (dissolved)		10.2	30.0	1	U	EPA 6010C	2L30001	12/28/12 14:13



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## ANALYSIS DATA SHEET

1R-44818

Client: CDM FEDERAL PROGRAMS CORP. SDG: 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAYLab ID: 1212075-02 % Solid: Matrix: Water Sampled: 12/19/12 Received: 12/21/12

CAS NO.	Analyte	Conc. (ug/L)	MDL	RL	D.F.	Q	Method	Sequence	Analyzed
7440-36-0	Antimony (dissolved)		0.0260	2.00	1	U	EPA 6020A	2L26017	12/26/12 17:18
7440-38-2	Arsenic (dissolved)		0.140	1.00	1	U	EPA 6020A	2L26017	12/26/12 17:18
7440-39-3	Barium (dissolved)		66.5	200	1	U	EPA 6010C	2L30001	12/28/12 15:17
7440-41-7	Beryllium (dissolved)		0.0330	1.00	1	U	EPA 6020A	2L26017	12/26/12 17:18
7440-43-9	Cadmium (dissolved)		0.0110	1.00	1	U	EPA 6020A	2L26017	12/26/12 17:18
7440-47-3	Chromium (dissolved)		3.76	10.0	1	U	EPA 6010C	2L30001	12/28/12 15:17
7440-48-4	Cobalt (dissolved)		7.33	20.0	1	U	EPA 6010C	2L30001	12/28/12 15:17
7440-50-8	Copper (dissolved)		0.910	5.00	1	U	EPA 6010C	2L30001	12/28/12 15:17
57-12-5	Cyanide		2.50	10.0	1	U	EPA 9010C/9012B	2L27010	12/27/12 12:37
7439-89-6	Iron (dissolved)		69.4	200	1	U	EPA 6010C	2L30001	12/28/12 15:17
7439-92-1	Lead (dissolved)		0.0210	1.00	1	U	EPA 6020A	2L26017	12/26/12 17:18
7439-97-6	Mercury		0.0355	0.200	1	U	EPA 7470A	2L27007	12/27/12 10:41
7440-02-0	Nickel (dissolved)		3.43	10.0	1	U	EPA 6010C	2L30001	12/28/12 15:17
7782-49-2	Selenium (dissolved)		0.0900	5.00	1	U	EPA 6020A	2L26017	12/26/12 17:18
7440-22-4	Silver (dissolved)		2.02	5.00	1	U	EPA 6010C	2L30001	12/28/12 15:17
7440-28-0	Thallium (dissolved)		0.0150	1.00	1	U	EPA 6020A	2L26017	12/26/12 17:18
7440-62-2	Vanadium (dissolved)		6.52	20.0	1	U	EPA 6010C	2L30001	12/28/12 15:17
7440-66-6	Zinc (dissolved)		10.2	30.0	1	U	EPA 6010C	2L30001	12/28/12 15:17



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## ANALYSIS DATA SHEET

1R-45180

Client: CDM FEDERAL PROGRAMS CORP. SDG: 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab ID: 1212075-04 % Solid: Matrix: Water Sampled: 12/20/12 Received: 12/22/12

CAS NO.	Analyte	Conc. (ug/L)	MDL	RL	D.F.	Q	Method	Sequence	Analyzed
7440-36-0	Antimony (dissolved)		0.0260	2.00	1	U	EPA 6020A	2L26017	12/26/12 17:20
7440-38-2	Arsenic (dissolved)		0.140	1.00	1	U	EPA 6020A	2L26017	12/26/12 17:20
7440-39-3	Barium (dissolved)		66.5	200	1	U	EPA 6010C	2L30001	12/28/12 15:24
7440-41-7	Beryllium (dissolved)		0.0330	1.00	1	U	EPA 6020A	2L26017	12/26/12 17:20
7440-43-9	Cadmium (dissolved)		0.0110	1.00	1	U	EPA 6020A	2L26017	12/26/12 17:20
7440-47-3	Chromium (dissolved)		3.76	10.0	1	U	EPA 6010C	2L30001	12/28/12 15:24
7440-48-4	Cobalt (dissolved)		7.33	20.0	1	U	EPA 6010C	2L30001	12/28/12 15:24
7440-50-8	Copper (dissolved)		0.910	5.00	1	U	EPA 6010C	2L30001	12/28/12 15:24
57-12-5	Cyanide		2.50	10.0	1	U	EPA 9010C/9012B	2L27010	12/27/12 12:38
7439-89-6	Iron (dissolved)		69.4	200	1	U	EPA 6010C	2L30001	12/28/12 15:24
7439-92-1	Lead (dissolved)		0.0210	1.00	1	U	EPA 6020A	2L26017	12/26/12 17:20
7439-97-6	Mercury		0.0355	0.200	1	U	EPA 7470A	2L27007	12/27/12 10:48
7440-02-0	Nickel (dissolved)		3.43	10.0	1	U	EPA 6010C	2L30001	12/28/12 15:24
7782-49-2	Selenium (dissolved)		0.0900	5.00	1	U	EPA 6020A	2L26017	12/26/12 17:20
7440-22-4	Silver (dissolved)		2.02	5.00	1	U	EPA 6010C	2L30001	12/28/12 15:24
7440-28-0	Thallium (dissolved)		0.0150	1.00	1	U	EPA 6020A	2L26017	12/26/12 17:20
7440-62-2	Vanadium (dissolved)		6.52	20.0	1	U	EPA 6010C	2L30001	12/28/12 15:24
7440-66-6	Zinc (dissolved)		10.2	30.0	1	U	EPA 6010C	2L30001	12/28/12 15:24



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## ANALYSIS DATA SHEET

1R-44819

Client: CDM FEDERAL PROGRAMS CORP. SDG: 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAYLab ID: 1212075-05 % Solid: Matrix: Water Sampled: 12/20/12 Received: 12/22/12

CAS NO.	Analyte	Conc. (ug/L)	MDL	RL	D.F.	Q	Method	Sequence	Analyzed
7440-36-0	Antimony (dissolved)		0.0260	2.00	1	U	EPA 6020A	2L26017	12/26/12 17:25
7440-38-2	Arsenic (dissolved)		0.140	1.00	1	U	EPA 6020A	2L26017	12/26/12 17:25
7440-39-3	Barium (dissolved)		66.5	200	1	U	EPA 6010C	2L30001	12/28/12 15:31
7440-41-7	Beryllium (dissolved)		0.0330	1.00	1	U	EPA 6020A	2L26017	12/26/12 17:25
7440-43-9	Cadmium (dissolved)		0.0110	1.00	1	U	EPA 6020A	2L26017	12/26/12 17:25
7440-47-3	Chromium (dissolved)		3.76	10.0	1	U	EPA 6010C	2L30001	12/28/12 15:31
7440-48-4	Cobalt (dissolved)		7.33	20.0	1	U	EPA 6010C	2L30001	12/28/12 15:31
7440-50-8	Copper (dissolved)		0.910	5.00	1	U	EPA 6010C	2L30001	12/28/12 15:31
57-12-5	Cyanide		2.50	10.0	1	U	EPA 9010C/9012B	2L27010	12/27/12 12:41
7439-89-6	Iron (dissolved)		69.4	200	1	U	EPA 6010C	2L30001	12/28/12 15:31
7439-92-1	Lead (dissolved)		0.0210	1.00	1	U	EPA 6020A	2L26017	12/26/12 17:25
7439-97-6	Mercury		0.0355	0.200	1	U	EPA 7470A	2L27007	12/27/12 10:50
7440-02-0	Nickel (dissolved)		3.43	10.0	1	U	EPA 6010C	2L30001	12/28/12 15:31
7782-49-2	Selenium (dissolved)		0.0900	5.00	1	U	EPA 6020A	2L26017	12/26/12 17:25
7440-22-4	Silver (dissolved)		2.02	5.00	1	U	EPA 6010C	2L30001	12/28/12 15:31
7440-28-0	Thallium (dissolved)		0.0150	1.00	1	U	EPA 6020A	2L26017	12/26/12 17:25
7440-62-2	Vanadium (dissolved)		6.52	20.0	1	U	EPA 6010C	2L30001	12/28/12 15:31
7440-66-6	Zinc (dissolved)		10.2	30.0	1	U	EPA 6010C	2L30001	12/28/12 15:31



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# BLANKS

EPA 6020A

Client: CDM FEDERAL PROGRAMS CORP.

SDG: 1212075

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Sequence: 2L26017

Instrument ID: PEMS

Client ID	Lab Sample ID	Analyte	Found	MDL	RL	Units	Q	Method
ICB	2L26017-ICB1	Antimony	0.0196	0.0260	2.00	ug/L	U	EPA 6020A
ICB	2L26017-ICB1	Arsenic	-0.0226	0.140	1.00	ug/L	U	EPA 6020A
ICB	2L26017-ICB1	Beryllium	0.0165	0.0330	1.00	ug/L	U	EPA 6020A
ICB	2L26017-ICB1	Cadmium	0.00377	0.0110	1.00	ug/L	U	EPA 6020A
ICB	2L26017-ICB1	Lead	-0.136	0.0210	1.00	ug/L	J	EPA 6020A
ICB	2L26017-ICB1	Selenium	-0.0327	0.0900	5.00	ug/L	U	EPA 6020A
ICB	2L26017-ICB1	Thallium	0.00978	0.0150	1.00	ug/L	U	EPA 6020A
CCB	2L26017-CCB1	Antimony	0.266	0.0260	2.00	ug/L	J	EPA 6020A
CCB	2L26017-CCB1	Arsenic	0.333	0.140	1.00	ug/L	J	EPA 6020A
CCB	2L26017-CCB1	Beryllium	0.110	0.0330	1.00	ug/L	J	EPA 6020A
CCB	2L26017-CCB1	Cadmium	0.228	0.0110	1.00	ug/L	J	EPA 6020A
CCB	2L26017-CCB1	Lead	-0.0112	0.0210	1.00	ug/L	U	EPA 6020A
CCB	2L26017-CCB1	Selenium	0.306	0.0900	5.00	ug/L	J	EPA 6020A
CCB	2L26017-CCB1	Thallium	0.147	0.0150	1.00	ug/L	J	EPA 6020A
CCB	2L26017-CCB2	Antimony	0.0421	0.0260	2.00	ug/L	J	EPA 6020A
CCB	2L26017-CCB2	Arsenic	-0.00850	0.140	1.00	ug/L	U	EPA 6020A
CCB	2L26017-CCB2	Beryllium	0.0301	0.0330	1.00	ug/L	U	EPA 6020A
CCB	2L26017-CCB2	Cadmium	-0.000890	0.0110	1.00	ug/L	U	EPA 6020A
CCB	2L26017-CCB2	Lead	-0.150	0.0210	1.00	ug/L	J	EPA 6020A
CCB	2L26017-CCB2	Selenium	-0.0319	0.0900	5.00	ug/L	U	EPA 6020A
CCB	2L26017-CCB2	Thallium	0.00848	0.0150	1.00	ug/L	U	EPA 6020A
CCB	2L26017-CCB3	Antimony	0.0661	0.0260	2.00	ug/L	J	EPA 6020A
CCB	2L26017-CCB3	Arsenic	-0.0187	0.140	1.00	ug/L	U	EPA 6020A
CCB	2L26017-CCB3	Beryllium	0.0168	0.0330	1.00	ug/L	U	EPA 6020A
CCB	2L26017-CCB3	Cadmium	0.00853	0.0110	1.00	ug/L	U	EPA 6020A
CCB	2L26017-CCB3	Lead	-0.145	0.0210	1.00	ug/L	J	EPA 6020A
CCB	2L26017-CCB3	Selenium	-0.0255	0.0900	5.00	ug/L	U	EPA 6020A
CCB	2L26017-CCB3	Thallium	0.0107	0.0150	1.00	ug/L	U	EPA 6020A
CCB	2L26017-CCB4	Antimony	0.133	0.0260	2.00	ug/L	J	EPA 6020A
CCB	2L26017-CCB4	Arsenic	0.645	0.140	1.00	ug/L	J	EPA 6020A
CCB	2L26017-CCB4	Beryllium	0.0164	0.0330	1.00	ug/L	U	EPA 6020A
CCB	2L26017-CCB4	Cadmium	0.00730	0.0110	1.00	ug/L	U	EPA 6020A
CCB	2L26017-CCB4	Lead	-0.131	0.0210	1.00	ug/L	J	EPA 6020A



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# BLANKS

EPA 6020A

Client: CDM FEDERAL PROGRAMS CORP.

SDG: 1212075

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Sequence: 2L26017

Instrument ID: PEMS

Client ID	Lab Sample ID	Analyte	Found	MDL	RL	Units	Q	Method
CCB	2L26017-CCB4	Selenium	0.108	0.0900	5.00	ug/L	J	EPA 6020A
CCB	2L26017-CCB4	Thallium	0.0193	0.0150	1.00	ug/L	J	EPA 6020A
CCB	2L26017-CCB5	Antimony	0.0597	0.0260	2.00	ug/L	J	EPA 6020A
CCB	2L26017-CCB5	Arsenic	-0.00623	0.140	1.00	ug/L	U	EPA 6020A
CCB	2L26017-CCB5	Beryllium	0.00927	0.0330	1.00	ug/L	U	EPA 6020A
CCB	2L26017-CCB5	Cadmium	0.00476	0.0110	1.00	ug/L	U	EPA 6020A
CCB	2L26017-CCB5	Lead	-0.123	0.0210	1.00	ug/L	J	EPA 6020A
CCB	2L26017-CCB5	Selenium	0.00430	0.0900	5.00	ug/L	U	EPA 6020A
CCB	2L26017-CCB5	Thallium	0.00800	0.0150	1.00	ug/L	U	EPA 6020A
CCB	2L26017-CCB6	Antimony	0.0725	0.0260	2.00	ug/L	J	EPA 6020A
CCB	2L26017-CCB6	Arsenic	-0.0111	0.140	1.00	ug/L	U	EPA 6020A
CCB	2L26017-CCB6	Beryllium	0.0120	0.0330	1.00	ug/L	U	EPA 6020A
CCB	2L26017-CCB6	Cadmium	0.00540	0.0110	1.00	ug/L	U	EPA 6020A
CCB	2L26017-CCB6	Lead	-0.136	0.0210	1.00	ug/L	J	EPA 6020A
CCB	2L26017-CCB6	Selenium	0.0699	0.0900	5.00	ug/L	U	EPA 6020A
CCB	2L26017-CCB6	Thallium	0.00904	0.0150	1.00	ug/L	U	EPA 6020A
CCB	2L26017-CCB7	Antimony	0.109	0.0260	2.00	ug/L	J	EPA 6020A
CCB	2L26017-CCB7	Arsenic	0.0526	0.140	1.00	ug/L	U	EPA 6020A
CCB	2L26017-CCB7	Beryllium	0.226	0.0330	1.00	ug/L	J	EPA 6020A
CCB	2L26017-CCB7	Cadmium	0.0365	0.0110	1.00	ug/L	J	EPA 6020A
CCB	2L26017-CCB7	Lead	-0.00824	0.0210	1.00	ug/L	U	EPA 6020A
CCB	2L26017-CCB7	Selenium	-0.00816	0.0900	5.00	ug/L	U	EPA 6020A
CCB	2L26017-CCB7	Thallium	0.112	0.0150	1.00	ug/L	J	EPA 6020A
CCB	2L26017-CCB8	Antimony	0.0721	0.0260	2.00	ug/L	J	EPA 6020A
CCB	2L26017-CCB8	Arsenic	0.0170	0.140	1.00	ug/L	U	EPA 6020A
CCB	2L26017-CCB8	Beryllium	0.0234	0.0330	1.00	ug/L	U	EPA 6020A
CCB	2L26017-CCB8	Cadmium	0.0139	0.0110	1.00	ug/L	J	EPA 6020A
CCB	2L26017-CCB8	Lead	-0.139	0.0210	1.00	ug/L	J	EPA 6020A
CCB	2L26017-CCB8	Selenium	0.00575	0.0900	5.00	ug/L	U	EPA 6020A
CCB	2L26017-CCB8	Thallium	0.0171	0.0150	1.00	ug/L	J	EPA 6020A
CCB	2L26017-CCB9	Antimony	0.0628	0.0260	2.00	ug/L	J	EPA 6020A
CCB	2L26017-CCB9	Arsenic	-0.00427	0.140	1.00	ug/L	U	EPA 6020A
CCB	2L26017-CCB9	Beryllium	0.00972	0.0330	1.00	ug/L	U	EPA 6020A



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# BLANKS

EPA 6020A

Client: CDM FEDERAL PROGRAMS CORP.

SDG: 1212075

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Sequence: 2L26017

Instrument ID: PEMS

Client ID	Lab Sample ID	Analyte	Found	MDL	RL	Units	Q	Method
CCB	2L26017-CCB9	Cadmium	-0.00155	0.0110	1.00	ug/L	U	EPA 6020A
CCB	2L26017-CCB9	Lead	-0.144	0.0210	1.00	ug/L	J	EPA 6020A
CCB	2L26017-CCB9	Selenium	-0.0296	0.0900	5.00	ug/L	U	EPA 6020A
CCB	2L26017-CCB9	Thallium	0.00840	0.0150	1.00	ug/L	U	EPA 6020A
CCB	2L26017-CCBA	Antimony	0.0545	0.0260	2.00	ug/L	J	EPA 6020A
CCB	2L26017-CCBA	Arsenic	-0.0373	0.140	1.00	ug/L	U	EPA 6020A
CCB	2L26017-CCBA	Beryllium	0.00745	0.0330	1.00	ug/L	U	EPA 6020A
CCB	2L26017-CCBA	Cadmium	-0.00173	0.0110	1.00	ug/L	U	EPA 6020A
CCB	2L26017-CCBA	Lead	-0.150	0.0210	1.00	ug/L	J	EPA 6020A
CCB	2L26017-CCBA	Selenium	-0.00560	0.0900	5.00	ug/L	U	EPA 6020A
CCB	2L26017-CCBA	Thallium	0.00722	0.0150	1.00	ug/L	U	EPA 6020A
CCB	2L26017-CCBB	Antimony	0.0679	0.0260	2.00	ug/L	J	EPA 6020A
CCB	2L26017-CCBB	Arsenic	0.000900	0.140	1.00	ug/L	U	EPA 6020A
CCB	2L26017-CCBB	Beryllium	0.0289	0.0330	1.00	ug/L	U	EPA 6020A
CCB	2L26017-CCBB	Cadmium	0.00684	0.0110	1.00	ug/L	U	EPA 6020A
CCB	2L26017-CCBB	Lead	-0.143	0.0210	1.00	ug/L	J	EPA 6020A
CCB	2L26017-CCBB	Selenium	0.0356	0.0900	5.00	ug/L	U	EPA 6020A
CCB	2L26017-CCBB	Thallium	0.0122	0.0150	1.00	ug/L	U	EPA 6020A
PBW	2122409-BLK1	Antimony		0.0260	2.00	ug/L	U	EPA 6020A
PBW	2122409-BLK1	Arsenic		0.140	1.00	ug/L	U	EPA 6020A
PBW	2122409-BLK1	Beryllium		0.0330	1.00	ug/L	U	EPA 6020A
PBW	2122409-BLK1	Cadmium	0.0137	0.0110	1.00	ug/L	J	EPA 6020A
PBW	2122409-BLK1	Lead	-0.101	0.0210	1.00	ug/L	J	EPA 6020A
PBW	2122409-BLK1	Selenium		0.0900	5.00	ug/L	U	EPA 6020A
PBW	2122409-BLK1	Thallium	0.0186	0.0150	1.00	ug/L	J	EPA 6020A
CCB	2L26017-CCBC	Antimony	0.0729	0.0260	2.00	ug/L	J	EPA 6020A
CCB	2L26017-CCBC	Arsenic	0.0365	0.140	1.00	ug/L	U	EPA 6020A
CCB	2L26017-CCBC	Beryllium	0.0235	0.0330	1.00	ug/L	U	EPA 6020A
CCB	2L26017-CCBC	Cadmium	0.0155	0.0110	1.00	ug/L	J	EPA 6020A
CCB	2L26017-CCBC	Lead	-0.139	0.0210	1.00	ug/L	J	EPA 6020A
CCB	2L26017-CCBC	Selenium	0.0210	0.0900	5.00	ug/L	U	EPA 6020A
CCB	2L26017-CCBC	Thallium	0.0198	0.0150	1.00	ug/L	J	EPA 6020A
CCB	2L26017-CCBD	Antimony	0.0624	0.0260	2.00	ug/L	J	EPA 6020A



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# BLANKS

EPA 6020A

Client: CDM FEDERAL PROGRAMS CORP.

SDG: 1212075

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Sequence: 2L26017

Instrument ID: PEMS

Client ID	Lab Sample ID	Analyte	Found	MDL	RL	Units	Q	Method
CCB	2L26017-CCBD	Arsenic	0.0269	0.140	1.00	ug/L	U	EPA 6020A
CCB	2L26017-CCBD	Beryllium	0.0348	0.0330	1.00	ug/L	J	EPA 6020A
CCB	2L26017-CCBD	Cadmium	0.00695	0.0110	1.00	ug/L	U	EPA 6020A
CCB	2L26017-CCBD	Lead	-0.138	0.0210	1.00	ug/L	J	EPA 6020A
CCB	2L26017-CCBD	Selenium	-0.0237	0.0900	5.00	ug/L	U	EPA 6020A
CCB	2L26017-CCBD	Thallium	0.0149	0.0150	1.00	ug/L	U	EPA 6020A



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## BLANKS

EPA 7470A

Client: CDM FEDERAL PROGRAMS CORP.

SDG: 1212075

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Sequence: 2L27007

Instrument ID: V4

Client ID	Lab Sample ID	Analyte	Found	MDL	RL	Units	Q	Method
ICB	2L27007-ICB1	Mercury	-0.0370	0.0355	0.200	ug/L	J	EPA 7470A
CCB	2L27007-CCB1	Mercury	-0.0520	0.0355	0.200	ug/L	J	EPA 7470A
CCB	2L27007-CCB2	Mercury	-0.00800	0.0355	0.200	ug/L	U	EPA 7470A
PBW	2122411-BLK1	Mercury	0.0510	0.0355	0.200	ug/L	J	EPA 7470A
CCB	2L27007-CCB3	Mercury	-0.0490	0.0355	0.200	ug/L	J	EPA 7470A
CCB	2L27007-CCB4	Mercury	-0.171	0.0355	0.200	ug/L	J	EPA 7470A



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## BLANKS

EPA 9010C/9012B

Client: CDM FEDERAL PROGRAMS CORP.

SDG: 1212075

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Sequence: 2L27010

Instrument ID: C2

Client ID	Lab Sample ID	Analyte	Found	MDL	RL	Units	Q	Method
ICB	2L27010-ICB1	Cyanide	-0.420	2.50	10.0	ug/L	U	EPA 9010C/9012B
CCB	2L27010-CCB1	Cyanide	-3.05	2.50	10.0	ug/L	J	EPA 9010C/9012B
PBW	2122608-BLK1	Cyanide		2.50	10.0	ug/L	U	EPA 9010C/9012B
CCB	2L27010-CCB2	Cyanide	-0.840	2.50	10.0	ug/L	U	EPA 9010C/9012B
CCB	2L27010-CCB3	Cyanide	-1.38	2.50	10.0	ug/L	U	EPA 9010C/9012B
CCB	2L27010-CCB4	Cyanide	-1.22	2.50	10.0	ug/L	U	EPA 9010C/9012B
CCB	2L27010-CCB5	Cyanide	-0.730	2.50	10.0	ug/L	U	EPA 9010C/9012B



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# BLANKS

EPA 6010C

Client: CDM FEDERAL PROGRAMS CORP.

SDG: 1212075

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Sequence: 2L30001

Instrument ID: P4

Client ID	Lab Sample ID	Analyte	Found	MDL	RL	Units	Q	Method
ICB	2L30001-ICB1	Barium	-0.343	66.5	200	ug/L	U	EPA 6010C
ICB	2L30001-ICB1	Chromium	0.364	3.76	10.0	ug/L	U	EPA 6010C
ICB	2L30001-ICB1	Cobalt	7.59	7.33	20.0	ug/L	J	EPA 6010C
ICB	2L30001-ICB1	Copper	-0.318	0.910	5.00	ug/L	U	EPA 6010C
ICB	2L30001-ICB1	Iron	11.2	69.4	200	ug/L	U	EPA 6010C
ICB	2L30001-ICB1	Nickel	0.695	3.43	10.0	ug/L	U	EPA 6010C
ICB	2L30001-ICB1	Silver	0.0287	2.02	5.00	ug/L	U	EPA 6010C
ICB	2L30001-ICB1	Vanadium	0.660	6.52	20.0	ug/L	U	EPA 6010C
ICB	2L30001-ICB1	Zinc	-0.0988	10.2	30.0	ug/L	U	EPA 6010C
CCB1	2L30001-CCB1	Barium	-0.117	66.5	200	ug/L	U	EPA 6010C
CCB1	2L30001-CCB1	Chromium	0.0396	3.76	10.0	ug/L	U	EPA 6010C
CCB1	2L30001-CCB1	Cobalt	6.13	7.33	20.0	ug/L	U	EPA 6010C
CCB1	2L30001-CCB1	Copper	-1.46	0.910	5.00	ug/L	J	EPA 6010C
CCB1	2L30001-CCB1	Iron	8.67	69.4	200	ug/L	U	EPA 6010C
CCB1	2L30001-CCB1	Nickel	0.797	3.43	10.0	ug/L	U	EPA 6010C
CCB1	2L30001-CCB1	Silver	0.220	2.02	5.00	ug/L	U	EPA 6010C
CCB1	2L30001-CCB1	Vanadium	0.692	6.52	20.0	ug/L	U	EPA 6010C
CCB1	2L30001-CCB1	Zinc	-0.626	10.2	30.0	ug/L	U	EPA 6010C
CCB1	2L30001-CCB2	Barium	-0.0676	66.5	200	ug/L	U	EPA 6010C
CCB1	2L30001-CCB2	Chromium	0.193	3.76	10.0	ug/L	U	EPA 6010C
CCB1	2L30001-CCB2	Cobalt	4.78	7.33	20.0	ug/L	U	EPA 6010C
CCB1	2L30001-CCB2	Copper	-3.25	0.910	5.00	ug/L	J	EPA 6010C
CCB1	2L30001-CCB2	Iron	6.96	69.4	200	ug/L	U	EPA 6010C
CCB1	2L30001-CCB2	Nickel	0.367	3.43	10.0	ug/L	U	EPA 6010C
CCB1	2L30001-CCB2	Silver	0.449	2.02	5.00	ug/L	U	EPA 6010C
CCB1	2L30001-CCB2	Vanadium	0.820	6.52	20.0	ug/L	U	EPA 6010C
CCB1	2L30001-CCB2	Zinc	-0.562	10.2	30.0	ug/L	U	EPA 6010C
PBW	2122410-BLK1	Barium		66.5	200	ug/L	U	EPA 6010C
PBW	2122410-BLK1	Chromium		3.76	10.0	ug/L	U	EPA 6010C
PBW	2122410-BLK1	Cobalt		7.33	20.0	ug/L	U	EPA 6010C
PBW	2122410-BLK1	Copper	-2.95	0.910	5.00	ug/L	J	EPA 6010C
PBW	2122410-BLK1	Iron		69.4	200	ug/L	U	EPA 6010C
PBW	2122410-BLK1	Nickel		3.43	10.0	ug/L	U	EPA 6010C



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# BLANKS

EPA 6010C

Client: CDM FEDERAL PROGRAMS CORP.

SDG: 1212075

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Sequence: 2L30001

Instrument ID: P4

Client ID	Lab Sample ID	Analyte	Found	MDL	RL	Units	Q	Method
PBW	2122410-BLK1	Silver		2.02	5.00	ug/L	U	EPA 6010C
PBW	2122410-BLK1	Vanadium		6.52	20.0	ug/L	U	EPA 6010C
PBW	2122410-BLK1	Zinc		10.2	30.0	ug/L	U	EPA 6010C
CCB1	2L30001-CCB3	Barium	-0.0927	66.5	200	ug/L	U	EPA 6010C
CCB1	2L30001-CCB3	Chromium	-0.367	3.76	10.0	ug/L	U	EPA 6010C
CCB1	2L30001-CCB3	Cobalt	5.98	7.33	20.0	ug/L	U	EPA 6010C
CCB1	2L30001-CCB3	Copper	-3.47	0.910	5.00	ug/L	J	EPA 6010C
CCB1	2L30001-CCB3	Iron	7.96	69.4	200	ug/L	U	EPA 6010C
CCB1	2L30001-CCB3	Nickel	0.287	3.43	10.0	ug/L	U	EPA 6010C
CCB1	2L30001-CCB3	Silver	0.507	2.02	5.00	ug/L	U	EPA 6010C
CCB1	2L30001-CCB3	Vanadium	0.976	6.52	20.0	ug/L	U	EPA 6010C
CCB1	2L30001-CCB3	Zinc	-0.614	10.2	30.0	ug/L	U	EPA 6010C
CCB1	2L30001-CCB4	Barium	-0.143	66.5	200	ug/L	U	EPA 6010C
CCB1	2L30001-CCB4	Chromium	0.173	3.76	10.0	ug/L	U	EPA 6010C
CCB1	2L30001-CCB4	Cobalt	7.13	7.33	20.0	ug/L	U	EPA 6010C
CCB1	2L30001-CCB4	Copper	-3.82	0.910	5.00	ug/L	J	EPA 6010C
CCB1	2L30001-CCB4	Iron	12.0	69.4	200	ug/L	U	EPA 6010C
CCB1	2L30001-CCB4	Nickel	0.811	3.43	10.0	ug/L	U	EPA 6010C
CCB1	2L30001-CCB4	Silver	-0.0478	2.02	5.00	ug/L	U	EPA 6010C
CCB1	2L30001-CCB4	Vanadium	0.363	6.52	20.0	ug/L	U	EPA 6010C
CCB1	2L30001-CCB4	Zinc	-0.404	10.2	30.0	ug/L	U	EPA 6010C
CCB1	2L30001-CCB5	Barium	-0.0226	66.5	200	ug/L	U	EPA 6010C
CCB1	2L30001-CCB5	Chromium	0.559	3.76	10.0	ug/L	U	EPA 6010C
CCB1	2L30001-CCB5	Cobalt	7.98	7.33	20.0	ug/L	J	EPA 6010C
CCB1	2L30001-CCB5	Copper	-3.67	0.910	5.00	ug/L	J	EPA 6010C
CCB1	2L30001-CCB5	Iron	10.0	69.4	200	ug/L	U	EPA 6010C
CCB1	2L30001-CCB5	Nickel	0.533	3.43	10.0	ug/L	U	EPA 6010C
CCB1	2L30001-CCB5	Silver	0.507	2.02	5.00	ug/L	U	EPA 6010C
CCB1	2L30001-CCB5	Vanadium	0.498	6.52	20.0	ug/L	U	EPA 6010C
CCB1	2L30001-CCB5	Zinc	-0.215	10.2	30.0	ug/L	U	EPA 6010C



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**DUPLICATES**  
**EPA 6020A**

**1R-44817D**

Client: CDM FEDERAL PROGRAMS CORP.    SDG: 1212075    Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY  
Lab ID: 2122409-DUP1    % Solid: NA    Matrix: Water    Lab Source ID: 1212075-01    Source Sample: 1R-44817

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (ug/L)	DUPLICATE CONCENTRATION (ug/L)	RPD %	Q	METHOD
Antimony (dissolved)	20	2.00 U	2.00 U			EPA 6020A
Arsenic (dissolved)	20	1.00 U	0.713 J			EPA 6020A
Beryllium (dissolved)	20	1.00 U	1.00 U			EPA 6020A
Cadmium (dissolved)	20	1.00 U	0.0784 J			EPA 6020A
Lead (dissolved)	20	1.00 U	1.00 U			EPA 6020A
Selenium (dissolved)	20	5.00 U	5.00 U			EPA 6020A
Thallium (dissolved)	20	1.00 U	1.00 U			EPA 6020A



**CompuChem**

A Division Of  
Liberty Analytical Corp.

**DUPLICATES**  
**EPA 6010C**

**1R-44817D**

Client: CDM FEDERAL PROGRAMS CORP.    SDG: 1212075    Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY  
Lab ID: 2122410-DUP1    % Solid: NA    Matrix: Water    Lab Source ID: 1212075-01    Source Sample: 1R-44817

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (ug/L)	DUPLICATE CONCENTRATION (ug/L)	RPD %	Q	METHOD
Barium (dissolved)	20	200 U	200 U			EPA 6010C
Chromium (dissolved)	20	10.0 U	10.0 U			EPA 6010C
Cobalt (dissolved)	20	20.0 U	20.0 U			EPA 6010C
Copper (dissolved)	20	5.00 U	5.00 U			EPA 6010C
Iron (dissolved)	20	200 U	200 U			EPA 6010C
Nickel (dissolved)	20	10.0 U	5.73 J			EPA 6010C
Silver (dissolved)	20	5.00 U	5.00 U			EPA 6010C
Vanadium (dissolved)	20	20.0 U	20.0 U			EPA 6010C
Zinc (dissolved)	20	30.0 U	30.0 U			EPA 6010C



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**DUPLICATES****EPA 7470A****1R-44817D**

Client: CDM FEDERAL PROGRAMS CORP.    SDG: 1212075    Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY  
Lab ID: 2122411-DUP1    % Solid: NA    Matrix: Water    Lab Source ID: 1212075-01    Source Sample: 1R-44817

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (ug/L)	DUPLICATE CONCENTRATION (ug/L)	RPD %	Q	METHOD
Mercury	20	0.200 U	0.0770 J			EPA 7470A

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**DUPLICATES**  
**EPA 9010C/9012B**

**1R-44817D**

Client: CDM FEDERAL PROGRAMS CORP.    SDG: 1212075    Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY  
Lab ID: 2122608-DUP2    % Solid: NA    Matrix: Water    Lab Source ID: 1212075-01RE1    Source Sample: 1R-44817

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (ug/L)	DUPLICATE CONCENTRATION (ug/L)	RPD %	Q	METHOD
Cyanide	20	10.0 U	10.5	86.9		EPA 9010C/9012B



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# MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 6020A

1R-44817S

Client: CDM FEDERAL PROGRAMS CORP.

SDG: 1212075

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab ID: 2122409-MS1

% Solid: NA

Matrix: Water

Lab Source ID: 1212075-01

Source Sample: 1R-44817

ANALYTE	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC.	Q	QC LIMITS REC.
Antimony (dissolved)	100.0	2.00 U	90.1	90.0		75 - 125
Arsenic (dissolved)	40.00	1.00 U	45.1	111		75 - 125
Beryllium (dissolved)	50.00	1.00 U	45.0	90.0		75 - 125
Cadmium (dissolved)	50.00	1.00 U	46.2	92.3		75 - 125
Lead (dissolved)	20.00	1.00 U	20.1	100		75 - 125
Selenium (dissolved)	10.00	5.00 U	9.32	92.5		75 - 125
Thallium (dissolved)	50.00	1.00 U	49.1	98.2		75 - 125

ANALYTE	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD	Q	QC LIMITS	
						RPD	REC.
Antimony (dissolved)	100.0	88.7	88.7	1.47		20	75 - 125
Arsenic (dissolved)	40.00	45.8	113	1.72		20	75 - 125
Beryllium (dissolved)	50.00	45.7	91.4	1.57		20	75 - 125
Cadmium (dissolved)	50.00	46.8	93.3	1.10		20	75 - 125
Lead (dissolved)	20.00	20.2	101	0.799		20	75 - 125
Selenium (dissolved)	10.00	9.50	94.3	1.94		20	75 - 125
Thallium (dissolved)	50.00	50.1	100	1.95		20	75 - 125



**CompuChem**

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# MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

1R-44817S

EPA 6010C

Client: CDM FEDERAL PROGRAMS CORP.

SDG: 1212075

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab ID: 2122410-MS1

% Solid: NA

Matrix: Water

Lab Source ID: 1212075-01

Source Sample: 1R-44817

ANALYTE	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC.	Q	QC LIMITS REC.
Barium (dissolved)	2000	200 U	2080	103		75 - 125
Chromium (dissolved)	200.0	10.0 U	205	102		75 - 125
Cobalt (dissolved)	500.0	20.0 U	500	98.8		75 - 125
Copper (dissolved)	250.0	5.00 U	240	95.9		75 - 125
Iron (dissolved)	1000	200 U	982	98.2		75 - 125
Nickel (dissolved)	500.0	10.0 U	504	99.7		75 - 125
Silver (dissolved)	50.00	5.00 U	48.4	96.2		75 - 125
Vanadium (dissolved)	500.0	20.0 U	500	100		75 - 125
Zinc (dissolved)	500.0	30.0 U	499	99.2		75 - 125

ANALYTE	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD	Q	QC LIMITS	
						RPD	REC.
Barium (dissolved)	2000	2050	101	1.52		20	75 - 125
Chromium (dissolved)	200.0	201	99.7	2.26		20	75 - 125
Cobalt (dissolved)	500.0	493	97.4	1.37		20	75 - 125
Copper (dissolved)	250.0	233	93.3	2.66		20	75 - 125
Iron (dissolved)	1000	957	95.7	2.59		20	75 - 125
Nickel (dissolved)	500.0	496	98.0	1.77		20	75 - 125
Silver (dissolved)	50.00	47.3	93.9	2.45		20	75 - 125
Vanadium (dissolved)	500.0	491	98.2	1.82		20	75 - 125
Zinc (dissolved)	500.0	489	97.3	1.95		20	75 - 125



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# MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 7470A

1R-44817S

Client: CDM FEDERAL PROGRAMS CORP. SDG: 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab ID: 2122411-MS1 % Solid: NA Matrix: Water Lab Source ID: 1212075-01 Source Sample: 1R-44817

ANALYTE	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC.	Q	QC LIMITS REC.
Mercury	1.000	0.200 U	1.19	119		75 - 125

ANALYTE	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD	Q	QC LIMITS	
						RPD	REC.
Mercury	1.000	1.07	107	11		20	75 - 125



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# MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 9010C/9012B

1R-44817S

Client: CDM FEDERAL PROGRAMS CORP.

SDG: 1212075

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab ID: 2122608-MS2

% Solid: NA

Matrix: Water

Lab Source ID: 1212075-01RE1

Source Sample: 1R-44817

ANALYTE	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC.	Q	QC LIMITS REC.
Cyanide	100.0	10.0 U	94.2	90.0		75 - 125

ANALYTE	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD	Q	QC LIMITS	
						RPD	REC.
Cyanide	100.0	73.1	69.0	25.2	* *	20	75 - 125



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# SERIAL DILUTION

EPA 6020A

1R-44817L

Client: CDM FEDERAL PROGRAMS CORP. SDG: 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab ID: 2L26017-SRD5 Matrix: Water Lab Source ID: 1212075-01 Source Sample: 1R-44817

Sequence: 2L26017 Dilution: 5 Report to MDL: NO

Analyte	Initial Sample Result (I)	Serial Dilution Result (S)	RL	% Difference	Q	Method	QC Limits % Difference
Antimony (dissolved)	2.00 U		2.00			EPA 6020A	10
Arsenic (dissolved)	1.00 U		1.00			EPA 6020A	10
Beryllium (dissolved)	1.00 U	5.00 U	1.00			EPA 6020A	10
Cadmium (dissolved)	1.00 U		1.00			EPA 6020A	10
Lead (dissolved)	1.00 U	5.00 U	1.00			EPA 6020A	10
Selenium (dissolved)	5.00 U	25.00 U	5.00			EPA 6020A	10
Thallium (dissolved)	1.00 U	5.00 U	1.00			EPA 6020A	10



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# SERIAL DILUTION

EPA 6010C

1R-44817L

Client: CDM FEDERAL PROGRAMS CORP. SDG: 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab ID: 2L30001-SRD2 Matrix: Water

Lab Source ID: 1212075-01 Source Sample: 1R-44817

Sequence: 2L30001

Dilution: 5

Report to MDL: NO

Analyte	Initial Sample Result (I)	Serial Dilution Result (S)	RL	% Difference	Q	Method	QC Limits % Difference
Barium (dissolved)	200.00 U	1000.00 U	200			EPA 6010C	10
Chromium (dissolved)	10.00 U	50.00 U	10.0			EPA 6010C	10
Cobalt (dissolved)	20.00 U	100.00 U	20.0			EPA 6010C	10
Copper (dissolved)	5.00 U	25.00 U	5.00			EPA 6010C	10
Iron (dissolved)	200.00 U	1000.00 U	200			EPA 6010C	10
Nickel (dissolved)	10.00 U	50.00 U	10.0			EPA 6010C	10
Silver (dissolved)	5.00 U	25.00 U	5.00			EPA 6010C	10
Vanadium (dissolved)	20.00 U	100.00 U	20.0			EPA 6010C	10
Zinc (dissolved)	30.00 U	150.00 U	30.0			EPA 6010C	10



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# LCS / LCS DUPLICATE RECOVERY

EPA 6020A

Client: CDM FEDERAL PROGRAMS CORP. SDG: 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab ID: 2122409-BS1 Matrix: Water Client ID: LCSW Batch: 2122409

ANALYTE	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC.	Q	QC LIMITS REC.
Antimony (dissolved)	220.0	214	97.3		80 - 120
Arsenic (dissolved)	220.0	244	111		80 - 120
Beryllium (dissolved)	110.0	113	103		80 - 120
Cadmium (dissolved)	110.0	111	101		80 - 120
Lead (dissolved)	220.0	221	101		80 - 120
Selenium (dissolved)	220.0	235	107		80 - 120
Thallium (dissolved)	220.0	225	102		80 - 120



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# LCS / LCS DUPLICATE RECOVERY

EPA 6010C

Client: CDM FEDERAL PROGRAMS CORP. SDG: 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab ID: 2122410-BS1 Matrix: Water Client ID: LCSW Batch: 2122410

ANALYTE	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC.	Q	QC LIMITS REC.
Barium (dissolved)	550.0	533	96.9		80 - 120
Chromium (dissolved)	550.0	534	97.1		80 - 120
Cobalt (dissolved)	550.0	526	95.7		80 - 120
Copper (dissolved)	550.0	516	93.8		80 - 120
Iron (dissolved)	5100	4870	95.5		80 - 120
Nickel (dissolved)	550.0	527	95.9		80 - 120
Silver (dissolved)	550.0	507	92.3		80 - 120
Vanadium (dissolved)	550.0	527	95.7		80 - 120
Zinc (dissolved)	1100	1040	94.4		80 - 120



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# LCS / LCS DUPLICATE RECOVERY

EPA 7470A

Client: CDM FEDERAL PROGRAMS CORP. SDG: 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab ID: 2122411-BS1 Matrix: Water Client ID: LCSW Batch: 2122411

ANALYTE	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC.	Q	QC LIMITS REC.
Mercury	4.000	4.31	108		80 - 120



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# LCS / LCS DUPLICATE RECOVERY

EPA 9010C/9012B

Client: CDM FEDERAL PROGRAMS CORP.    SDG: 1212075    Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab ID: 2122608-BS1    Matrix: Water    Client ID: LCSW    Batch: 2122608

ANALYTE	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC.	Q	QC LIMITS REC.
Cyanide	99.00	96.5	97.5		85 - 115



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## METHOD DETECTION AND REPORTING LIMITS

Laboratory: COMPUCHEM

SDG: 1212075

Client: CDM FEDERAL PROGRAMS CORP.

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Matrix: WATER

Instrument: C2

Analyte	MDL	RL	Units	Method
Cyanide	2.5	10.00	ug/L	EPA 9010C/9012B



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## METHOD DETECTION AND REPORTING LIMITS

Laboratory: COMPUCHEM

SDG: 1212075

Client: CDM FEDERAL PROGRAMS CORP.

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Matrix: Water

Instrument: P4

Analyte	MDL	RL	Units	Method
Barium (dissolved)	66.5	200.00	ug/L	EPA 6010C
Chromium (dissolved)	3.76	10.00	ug/L	EPA 6010C
Cobalt (dissolved)	7.33	20.00	ug/L	EPA 6010C
Copper (dissolved)	0.91	5.00	ug/L	EPA 6010C
Iron (dissolved)	69.4	200.00	ug/L	EPA 6010C
Nickel (dissolved)	3.43	10.00	ug/L	EPA 6010C
Silver (dissolved)	2.02	5.00	ug/L	EPA 6010C
Vanadium (dissolved)	6.52	20.00	ug/L	EPA 6010C
Zinc (dissolved)	10.2	30.00	ug/L	EPA 6010C



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## METHOD DETECTION AND REPORTING LIMITS

Laboratory: COMPUCHEM

SDG: 1212075

Client: CDM FEDERAL PROGRAMS CORP.

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Matrix: Water

Instrument: PEMS

Analyte	MDL	RL	Units	Method
Antimony (dissolved)	0.026	2.00	ug/L	EPA 6020A
Arsenic (dissolved)	0.14	1.00	ug/L	EPA 6020A
Beryllium (dissolved)	0.033	1.00	ug/L	EPA 6020A
Cadmium (dissolved)	0.011	1.00	ug/L	EPA 6020A
Lead (dissolved)	0.021	1.00	ug/L	EPA 6020A
Selenium (dissolved)	0.09	5.00	ug/L	EPA 6020A
Thallium (dissolved)	0.015	1.00	ug/L	EPA 6020A



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## METHOD DETECTION AND REPORTING LIMITS

Laboratory: COMPUCHEM

SDG: 1212075

Client: CDM FEDERAL PROGRAMS CORP.

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Matrix: Water

Instrument: V4

Analyte	MDL	RL	Units	Method
Mercury	0.0355	0.20	ug/L	EPA 7470A



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## PREPARATION BATCH SUMMARY

EPA 6020A

Client: CDM FEDERAL PROGRAMS CORP.

SDG: 1212075

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Batch: 2122409

Matrix: Water

Preparation: EPA 3005A

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL/WT (mL)	FINAL VOL/WT (mL)
IR-44817	1212075-01	12/26/12 10:30	100	100
IR-44818	1212075-02	12/26/12 10:30	100	100
IR-45180	1212075-04	12/26/12 10:30	100	100
IR-44819	1212075-05	12/26/12 10:30	100	100
PBW	2122409-BLK1	12/26/12 10:30	100	100
LCSW	2122409-BS1	12/26/12 10:30	100	100
IR-44817D	2122409-DUP1	12/26/12 10:30	100	100
IR-44817S	2122409-MS1	12/26/12 10:30	100	100
IR-44817SD	2122409-MSD1	12/26/12 10:30	100	100
IR-44817A	2122409-PS1	12/26/12 10:30	100	100



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## PREPARATION BATCH SUMMARY

EPA 6010C

Client: CDM FEDERAL PROGRAMS CORP.

SDG: 1212075

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Batch: 2122410

Matrix: Water

Preparation: EPA 3010A

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL/WT (mL)	FINAL VOL/WT (mL)
1R-44817	1212075-01	12/26/12 11:10	50.0	50.0
1R-44818	1212075-02	12/26/12 11:10	50.0	50.0
1R-45180	1212075-04	12/26/12 11:10	50.0	50.0
1R-44819	1212075-05	12/26/12 11:10	50.0	50.0
PBW	2122410-BLK1	12/26/12 11:10	50.0	50.0
LCSW	2122410-BS1	12/26/12 11:10	50.0	50.0
1R-44817D	2122410-DUP1	12/26/12 11:10	50.0	50.0
1R-44817S	2122410-MS1	12/26/12 11:10	50.0	50.0
1R-44817SD	2122410-MSD1	12/26/12 11:10	50.0	50.0
1R-44817A	2122410-PS1	12/26/12 11:10	50.0	50.0



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## PREPARATION BATCH SUMMARY

EPA 7470A

Client: CDM FEDERAL PROGRAMS CORP.

SDG: 1212075

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Batch: 2122411

Matrix: Water

Preparation: EPA 7470A Prep

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL/WT (mL)	FINAL VOL/WT (mL)
1R-44817	1212075-01	12/26/12 11:10	100	100
1R-44818	1212075-02	12/26/12 11:10	100	100
1R-45180	1212075-04	12/26/12 11:10	100	100
1R-44819	1212075-05	12/26/12 11:10	100	100
PBW	2122411-BLK1	12/26/12 11:10	100	100
LCSW	2122411-BS1	12/26/12 11:10	100	100
1R-44817D	2122411-DUP1	12/26/12 11:10	100	100
1R-44817S	2122411-MS1	12/26/12 11:10	100	100
1R-44817SD	2122411-MSD1	12/26/12 11:10	100	100



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## PREPARATION BATCH SUMMARY

EPA 9010C/9012B

Client: CDM FEDERAL PROGRAMS CORP.      SDG: 1212075      Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY  
Batch: 2122608      Matrix: Water      Preparation: 9010C

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL/WT (mL)	FINAL VOL/WT (mL)
1R-44817	1212075-01RE1	12/26/12 15:15	50.0	50.0
1R-44818	1212075-02	12/26/12 15:15	50.0	50.0
1R-45180	1212075-04	12/26/12 15:15	50.0	50.0
1R-44819	1212075-05	12/26/12 15:15	50.0	50.0
PBW	2122608-BLK1	12/26/12 15:15	50.0	50.0
LCSW	2122608-BS1	12/26/12 15:15	50.0	50.0
1R-44817D	2122608-DUP2	12/26/12 15:15	50.0	50.0
1R-44817S	2122608-MS2	12/26/12 15:15	50.0	50.0
1R-44817SD	2122608-MSD2	12/26/12 15:15	50.0	50.0



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12/31/2012

TRACY DODGE

CDM FEDERAL PROGRAMS CORP.

60 Port Blvd., Suite 201

Libby, MT 59923

Subject:


Report of Data - Project: LIBBY ASBESTOS TO-14/6402.DK1.002.S      WorkOrder: 1212075

Attn.: TRACY DODGE

Enclosed are the results of analytical work performed in accordance with the referenced account number. This report covers sample(s) appearing on the listing.

Thank you for selecting CompuChem for your sample analysis. If you should have questions or require additional analytical services, please contact your representative at 1-800-833-5097

Sincerely,



CompuChem  
a division of Liberty Analytical Corporation

Attachment

TOTAL NUMBER  
OF PAGES \_\_\_\_\_

**CompuChem, a division of Liberty Analytical****Client:** CDM FEDERAL PROGRAMS CORP.**Work:** 1212075**Project:** LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DA\**Sdg:** 1212075

Lab ID	Client ID	Matrix	Date Sampled	Date Received
1212075-01	1R-44817	Water	12/18/2012 13:43	12/21/2012 10:37
1212075-02	1R-44818	Water	12/19/2012 12:59	12/21/2012 10:37
1212075-03	TB-1	Water	12/18/2012 00:00	12/21/2012 10:37
1212075-04	1R-45180	Water	12/20/2012 11:20	12/22/2012 11:24
1212075-05	1R-44819	Water	12/20/2012 11:35	12/22/2012 11:24
1212075-06	TB-2	Water	12/18/2012 00:00	12/22/2012 11:24

## ANALYSES DATA PACKAGE COVER PAGE

**Client:** CDM FEDERAL PROGRAMS CORP.

**Project:** LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

**Laboratory:** COMPUCHEM

**SDG:** 1212075

---

**Client Sample Id:**

1R-44817

1R-44818

TB-1

1R-45180

1R-44819

TB-2

**Lab Sample Id:**

1212075-01

1212075-02

1212075-03

1212075-04

1212075-05

1212075-06

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the Electronic Data Deliverable has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature:

Patricia A. Murphy

Name:

Pat Murphy

Date:

12/28/2012

Title:

Senior Chemist



# CompuChem

A division of Liberty Analytical Corporation  
501 Madison Avenue  
Cary, N.C. 27513  
Tel: 919/379-4100 Fax: 919/379-4050

## SDG NARRATIVE SDG # 1212075 PROTOCOL: SW-846

<b>SAMPLE IDENTIFICATIONS:</b>	<b>1R-44817</b>	<b>1R-44818</b>	<b>TB-1</b>
<b>1R-45180</b>	<b>1R-44819</b>	<b>TB-2</b>	

The 7 aqueous samples listed above were received intact, refrigerated between 0.3°C and 1.5°C, with proper documentation, in sealed shipping containers, on December 21 and 22, 2012. All samples listed above were scheduled for the requested analyses of the volatile fraction. SW-846, 3rd Edition, Update 3, 8260B was used to prepare and analyze the samples, with the exceptions and/or additions requested by the client. All pertinent Quality Assurance notices are included in the narrative section, and all pertinent Laboratory notices are included in the sample data sections.

Analysis holding time requirements were met for the samples.

The pH values of the samples were equal to 1.

There were volatile Project/Target Compound List (TCL) analytes identified above the Contract Required Quantitation Limit (CRQL) in one of these samples.

All of the system monitoring compounds met recovery criteria in the analyses of the samples.

All of the internal standards met response and retention time criteria in the analyses of the samples.

All Bromofluorobenzene (BFB) abundance criteria were met for tunes associated to this SDG.

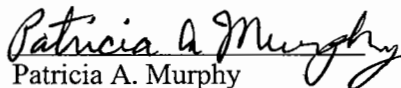
All QC criteria were met for all initial and continuing calibration standards associated to this SDG.

The associated method blanks met quality control criteria.

The associated Laboratory Control Samples (LCS/LCSD) met quality control criteria.

1R-44817 was used as the original to prepare the duplicate matrix spikes as requested. The associated duplicate matrix spikes met all of the advisory accuracy and precision criteria.

I certify that this data package complies with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Furthermore, I certify that the tests used in this report meet all requirements of the NELAC standards unless otherwise stated in the SDG narrative or QA notice. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.



Patricia A. Murphy

Senior Scientist

December 28, 2012

GC and GC/MS Column and Trap Specifications Table									

This table contains the GC columns (and volatile organic trap) used for the analysis of volatiles, semivolatiles, pesticides, and Aroclors by the requested analytical methods. Please see the SDG Narrative(s) for the specific fraction(s) relative to this SDG.

Note: This table also contains HPLC columns.

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## CompuChem's Pagination Convention

As required by the EPA CLP Statement of Work (SOW) documents, data to be delivered must be paginated (by machine or hand). In the event that the initial numbering is incorrect (a page numbered twice or a page skipped, for example), it is CompuChem's policy to add an alphabetic suffix to a page number when necessary (e.g., 100A, 100B, etc.). This policy is also applicable to non-CLP data packages.

Revision 7 (01/12/2011)



# CompuChem

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## **Notification Regarding Manual Editing/Integration Flags**

In some instances, manual adjustments to the software output are necessary to provide accurate data. These manual integrations are performed by the data reviewers, GC/MS operators, or GC/HPLC chemists. An Extracted Ion Current Profile (EICP) or a GC/HPLC chromatographic peak has been provided for the manual integration performed on each compound to demonstrate the accuracy of that process. The manual integrations are flagged on the quantitation report in the far right column beyond the FINAL concentration for GC/MS analysis, and in the "Flags" column for GC/HPLC analysis. The manual editing/integration flags are:

- M** - Denotes that a manual integration has been performed for this compound. The manual integration was performed in order to provide the most accurate area count possible for the peak. The most common reasons for performing manual integrations/editing are: the compound was not found by the automatic integration routine, the compound was incorrectly integrated by the automatic integration routine, and the co-eluting compounds were incorrectly integrated by the automatic integration routine.
- H** - Denotes that the data reviewer, GC/MS operator, or GC/HPLC Chemist has chosen an alternate peak within the retention time window from that chosen by the software for that compound. No manual integration is performed in choosing an alternate peak. The software still performs the integration.
- MH** - Denotes that an alternate peak has been chosen within the retention time window from that chosen by the software for that compound and also a manual integration of the chosen peak has been performed. The manual integration was performed in order to provide the most accurate area count possible for the peak.
- L** - Denotes that a data reviewer or GC/MS operator has selected an alternate library search. This is typically done when an additional tentatively identified compound (TIC) has been added to the number of peaks searched. No manual integration is performed in choosing an alternate peak. The software still performs the integration.
- ML** - Denotes that an alternate GC/MS library search has been selected and a manual integration has also been performed. This is typically done when an additional TIC has been added and the TIC peak also required a manual integration.

These codes will appear in the GC/MS and GC/HPLC raw data.

Revision 8 (01/29/2011)

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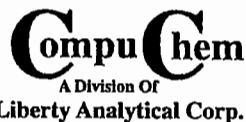
## DATA REPORTING QUALIFIERS

On the appropriate reporting form, under the column labeled “Q” for qualifier, each result is flagged with the specific data reporting qualifiers listed below, as appropriate. Up to five qualifiers may be reported on the appropriate reporting form for each compound. The qualifiers used are:

- U : This flag indicates the compound was analyzed for but not detected. The Contract Required Quantitation Limit (CRQL), or reporting limit, will be adjusted to reflect any dilution and, for soils, the percent moisture.
- J : This flag indicates an estimated value. The flag is used as detailed below:
1. When estimating a concentration for tentatively identified compounds (TICs) where a response factor of 1:1 is assumed for the TIC analyte,
  2. When the mass spectral and retention time data indicate the presence of a compound that meets the volatile and semivolatile GC/MS identification criteria, and the result is less than the adjusted CRQL (or Reporting Limit) but greater than zero, and
  3. When the retention time data indicate the presence of a compound that meets the pesticide and/or Aroclor or other GC or HPLC identification criteria, and the result is less than the adjusted CRQL (or Reporting Limit) but greater than zero. For example, if the CRQL (or Reporting Limit) is 10 µg/L, but a concentration of 3 µg/L is calculated, it is reported as 3J.
- N : This flag indicates presumptive evidence of a compound. This flag is only used for TICs, where the identification is based on a mass spectral library search and must be used with the J flag. For generic characterization of a TIC such as “chlorinated hydrocarbon” (or for an “unknown,” with no matches ≥85%), the N flag is not used.
- P : In the EPA’s Contract Laboratory Program (CLP), this flag is used for a pesticide/Aroclor target analyte, when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on the Form I and flagged with a P. For SW-846 GC and HPLC analyses, when the Relative Percent Difference (RPD) is greater than 40% and there is no evidence of chromatographic anomalies or interferences, then the lower of the two values is reported and flagged with a P on the reporting form. When the RPD is equal to or less than 40%, our policy is to also report the lower of the two values, although the choice could be a project specific issue. These SW-846 policies are consistent with Method 8000C. If Method 8000B is required, the higher of the two values is reported. For certain HPLC analyses, if one of the HPLC columns displays co-elution of target analytes, all results are reported from a primary column displaying no co-elution. Results are still flagged with a P if the RPD between columns is greater than 40%.
- C : This flag applies to GC or HPLC results where the identification has been confirmed by GC/MS. If GC/MS confirmation was attempted but was unsuccessful, this flag is not applied; a laboratory-defined flag is used instead (see the X/Y/Z qualifier.)

## **DATA REPORTING QUALIFIERS** (continued)

- B :** This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates probable blank contamination and warns the data user to take appropriate action. This flag is used for a TIC as well as for a positively identified target compound. The combination of flags BU or UB is not an allowable policy. Blank contaminants are flagged B only when they are detected in the sample.
- E :** This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis. If one or more compounds have a concentration greater than the upper level of the calibration range, the sample or extract will be diluted and reanalyzed. All such compounds with a concentration greater than the upper level of the calibration range will have the result flagged with an E on the appropriate reporting form for the original analysis.
- D :** If a sample or extract is reanalyzed at a higher dilution factor, for example when the concentration of an analyte exceeds the upper calibration range, the DL suffix is appended to the sample number on the appropriate reporting form for the more diluted sample, and **all** reported concentrations on that form are flagged with the D flag. This flag alerts data users that any discrepancies between the reported concentrations may be due to dilution of the sample or extract.
- NOTE 1:** The D flag is not applied to compounds which are not detected in the sample analysis i.e. compounds reported with the CRQL (or Reporting Limit) and the U flag.
- NOTE 2:** Separate reporting forms are used for reporting the original analysis (Client Sample No. XXXXX) and the more diluted sample analysis (Client Sample No. XXXXXDL) i.e. the results from both analyses are not combined on a single reporting form.
- A:** This flag indicates that a TIC is a suspected aldol-condensation product.
- S:** In the SOM01.2 SOW document, this flag is used to indicate an estimated value for Aroclor target compounds where a valid 5-point initial calibration was not performed prior to the analytes detection in a sample. If an “S” flag is used for a specific Aroclor, then a reanalysis of the sample is required after a valid 5-point calibration is performed for the detected Aroclor. The “S” flag is not utilized for non CLP analyses.
- X/Y/Z :** Other specific flags may be required to properly define the results. If used, the flags will be fully described in the SDG Narrative. The laboratory-defined flags are limited to X, Y, and Z.



Cary, NC 27513

Phone: 919-379-4100 Fax 919-379-4040

**26584**

Page 1 of 1

Courier	Fed-Ex - 7943 6036 1831
Airbill No.	7943 6038 7989
Sampling Complete? Y or N	(N) 7943 6120 5246

[illegible]

White & Yellow copy to lab • Pink copy for customer

IR GUN: SIN0015



**CompuChem**  
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Liberty Analytical Corp.

# CHAIN OF CUSTODY

501 Madison Ave.

Cary, NC 27513

Phone: 919-379-4100 Fax 919-379-4040

26584

Page 1 of 1

Courier **Fed-Ex - 7943 6036 1831**  
Airbill No. **7943 6038 7989**  
Sampling Complete? Y or **N** **7943 6030 5246**

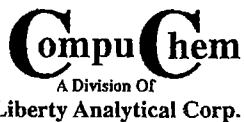
Client/Reporting Information				Project Information				Requested Analysis (include method and bottle type)												Matrices	
Company Name <b>CDM Smith</b>				Project Name <b>Libby, MT Asbestos Project</b>				<b>Disolved Metals + Mercury</b> <b>6020A/6010C/7470A (NL Poly)</b> <b>Cyanide</b> <b>9010C/9012B (U) 250mL Poly</b> <b>Volatile Organic Compounds</b> <b>8260B (3) 40mL VOA vials</b> <b>Chloride (Cl) / Sulfate (SO4)</b> <b>10 300.0 (A) 125mL Poly</b> <b>Nitrate - Nitrite</b> <b>353.2 (U) 250mL Poly</b> <b>Chemical Oxygen Demand (COD)</b> <b>Sub Contract (U) 250mL Poly</b> <b>VPH MADEP</b> <b>(A) 40mL VOA vials</b> <b>EPH MADEP</b> <b>(A) 1 L Amber Glass</b>												<b>GW</b> Ground water <b>WW</b> Waste water <b>SW</b> Surface water <b>SO</b> Soil/Sediment <b>TB</b> Trip Blank <b>RI</b> Rinsate <b>WP</b> Wipe <b>O</b> Other	
Address <b>60 Port Blvd Ste 201</b>				Sampling Location <b>Libby, MT</b>																<b>pH / Sample Info (Lab Use)</b> <b>not abo</b>	
City <b>Libby</b> State <b>MT</b> Zip <b>59923</b>				Turnaround time <b>14 Days</b>																	
Project Contact <b>Phyllis Haugen</b>				Batch QC or Project Specific? If Specific, which Sample ID? <b>IR-44817</b>																	
Phone # <b>406-293-8595 X33</b>				Are aqueous samples field filtered for metals? Y or <b>N</b>																	
Sampler's Name <b>Kris Beaudoin</b>				Are high concentrations expected? Y or <b>N</b> If yes, which ID(s)?																	
CompuChem No (Lab Use)	Field ID	Collection		Matrix	# of bottles	Number of Preserved Bottles										Other	NONE				
		Date	Time			HCl	NaOH	HNO3	H2SO4	Leig	MEOH										
	<b>IR-44817</b>	<b>12/19/12</b>	<b>13:43</b>	<b>GW</b>	<b>36</b>	<b>(15)</b>	<b>3</b>	<b>(3)</b>	<b>(1)</b>	<b>0</b>	<b>(3)</b>	<b>(1)</b>	<b>(1)</b>	<b>(1)</b>	<b>(1)</b>	<b>(1)</b>	<b>(1)</b>	<b>(1)</b>	<b>(1)</b>		
	<b>TB-1</b>	<b>NA</b>	<b>NA</b>	<b>TB</b>	<b>3</b>	<b>(3)</b>															
	<b>IR-44818</b>	<b>12/19/12</b>	<b>12:59</b>	<b>GW</b>	<b>12</b>	<b>(5)</b>	<b>1</b>	<b>(1)</b>	<b>4</b>	<b>0</b>	<b>(1)</b>	<b>(1)</b>	<b>(1)</b>	<b>(1)</b>	<b>(1)</b>	<b>(1)</b>	<b>(1)</b>	<b>(1)</b>	<b>(1)</b>		

Lab Use Only		Comments	
Sample Unpacked By: <b>G. Purdie</b>	Cyanide samples checked for sulfide & chlorine? Y or <b>NA</b>		
Sample Order Entry By: <b>Phyllis Haugen</b>	625 & Phenol samples checked for chlorine? Y or <b>NA</b>		
Samples Received in Good Condition? Y or <b>N</b>	608 samples checked for pH between 5.0-9.0? Y or <b>NA</b>		
If no, explain:			

Sample Custody			
Relinquished by: <b>Phyllis Haugen - CDM Smith</b>	Date/Time: <b>12/19/12 13:00</b>	Received by: <b>G. Purdie</b>	Date/Time: <b>12-21-12</b>
Relinquished by:	Date/Time:	Received by:	Date/Time:
Subcontract? Y or <b>N</b> If yes, where?	Custody Seal(s) intact? Y or <b>N</b>	On Ice? Y or <b>N</b>	Cooler Temp: <b>0.8 °C</b>

Samples stored 60 days after date report mailed at no extra charge.

White & Yellow copy to lab • Pink copy for customer



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Page 1 of 1

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Courier Fed-Ex - 7943 6036 1831  
Airbill No. 7943 6038 7989  
Sampling Complete? Y or (N) 7943 6220 5246

[illegible]



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Page      of     

Courier Fed-Ex - 7943 6036 1831  
Airbill No. 7943 6038 7989  
Sampling Complete? Y or (N) 7943 6220 5246

[illegible]

Samples stored 60 days after date report mailed at no extra charge.

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Courier Fed-Ex - 7943 7340 6690

Airbill No. 7943 7394 8532

Sampling Complete? ☒ Y or ☐ N

Client/Reporting Information				Project Information				Requested Analysis (include method and bottle type)												Matrices							
Company Name <u>CDM Smith</u>				Project Name <u>Libby MT Asbestos Project</u>				Dissolved Metals + Mercury 6030A/6010C/7470A (C) 2 Poly Cyanide 9010C/9012B (C) 250 mL Volatile Organic Compounds 8260B (3-40 mL) Vials Chloride (Cl) / Sulfate (SO4) 10 300.0 (1-125 mL Poly) Nitrate - Nitrite 353.1 (C) 250 mL Poly Chemical Oxygen Demand - (Sub Contract) (1) 250 mL Poly VPH MADEP (2) 40 mL vial EPH MADEP (2) 1 L Amber Glass												<input checked="" type="checkbox"/> GW - Ground water WW - Waste water SW - Surface water SO - Soil/Sediment <input checked="" type="checkbox"/> TB - Trip Blank RI - Rinsate WP - Wipe O - Other							
Address <u>60 Fort Blvd Ste 201</u>				Sampling Location <u>Libby MT</u>																							
City State Zip <u>Libby MT 59923</u>				Turnaround time																							
Project Contact <u>Phyllis Haugen</u>				Batch QC or Project Specific? If Specific, which Sample ID?																							
Phone # <u>406-293-8595 X 33</u>				Arc aqueous samples field filtered for metals? <input checked="" type="checkbox"/> Y or <input type="checkbox"/> N																							
Sampler's Name <u>Kris Branda</u>				Are high concentrations expected? <input checked="" type="checkbox"/> Y or <input type="checkbox"/> N If yes, which ID(s)?				pH / Sample Info (Lab Use)																			
CompuChem No (Lab Use)				Collection																							
Field ID		Date	Time	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	MEOH	Other	NONE															
12/20/05-04		12/20/05	11:20	GW	12	5	1	1	4	0	1		12/20/05 11:20														
-05		12/20/05	11:35	GW	12	5	1	1	4	0	1		12/20/05 11:35														
				GW	12	5	1	1	4	0	1		12/20/05														
12/20/05-00		NA	NA	TB	3								12/20/05														
Lab Use Only																Comments											
Sample Unpacked By: <u>[Signature]</u>																Cyanide samples checked for sulfide & chlorine? Y or NA											
Sample Order Entry By: <u>[Signature]</u>																625 & Phenol samples checked for chlorine? Y or NA											
Samples Received in Good Condition? <input checked="" type="checkbox"/> Y or <input type="checkbox"/> N																608 samples checked for pH between 5.0-9.0? Y or NA											
If no, explain:																											
Sample Custody																											
Relinquished by: <u>Phyllis Haugen - CDM Smith</u>																Date/Time: <u>12/21/12 13:00</u>											
Relinquished by: <u>[Signature]</u>																Date/Time: <u>12/22/12 1124</u>											
Subcontract? <input checked="" type="checkbox"/> Y or <input type="checkbox"/> N If yes, where? <u>MADEP/UPH &amp; EPH + GCD TO ENDD/CAP</u>																Custody Seal(s) intact? <input checked="" type="checkbox"/> Y or <input type="checkbox"/> N											
Samples stored 60 days after date report mailed at no extra charge.																On Ice? <input checked="" type="checkbox"/> Y or <input type="checkbox"/> N											
																Cooler Temp: <u>0.4, 0.3 °C</u>											

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Sampling Complete? Y or N

13

[illegible]

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Page 2 of 2

Cary, NC 27513

Phone: 919-379-4100 Fax 919-379-4040

Airbill No. 7943 7394 8532

Sampling Complete? Y or N

[illegible]

Samples stored 60 days after date report mailed at no extra charge.

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## WORK ORDER

Printed: 12/21/2012 6:23:43PM

1212075

## COMPUCHEM

<b>Client:</b> CDM FEDERAL PROGRAMS CORP.	<b>Project Manager:</b> Cathy Dover
<b>Project:</b> LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DA	<b>Project Number:</b> LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 I
<b>SDG:</b> 1212075 <b>CASE:</b>	<b>Status:</b> Received

Report To:

CDM FEDERAL PROGRAMS CORP.  
PAUL LAMMERS  
60 PORT BLVD, STE 228  
LIBBY, MT 59923  
Phone: -  
Fax: -

Invoice To:

CDM FEDERAL PROGRAMS CORP.  
SUBCONTRACT MANAGER  
14420 ALBEMARLE POINT PLACE, SUITE 210  
CHANTILLY, VA 20151  
Phone :-  
Fax: -

Date Due: 01/03/2013 00:00 (13 day TAT)

Received By: Cathy Dover

Date Received: 12/21/2012 10:37

Logged In By: Cathy Dover

Date Logged In: 12/21/2012 12:52

J & B Flags?: NO	TICS?: NO	Deliverable: Style 3	EDD: 68) LATA EXCEL
Metals ND to? RL/CRQL	Spike Level: FULL Spike		

USE 1212075-01 FOR QC\*VOC 25ML=LIBBY.SUB\*6020A MTL=Sb,As,Be,Cd,Pb,Se,Tl\*6010C MTL=Ba,Cr,Co,Cu,Fe,Ni,Ag,V & Zn\*HG 7470A\*NO2/NO3 353.2 IN H2SO4 PRES.CONTAINER\*IC300=CHL/SO4\*CN 9010C/9012B\*GENERATE THE CUSTOM NO MDL REPORT

Analysis	Due	TAT	Expires	Received	Comments
<b>1212075-01 1R-44817 [Water] Sampled 12/18/2012 13:43 Eastern</b>				<b>USE FOR QC</b>	
6010C DISS. METALS VARIABLE Invoice	01/03/2013 16:00	13	06/16/2013 13:43	12/21/2012 10:37	
6010C METALS	01/03/2013 16:00	13	06/16/2013 13:43	12/21/2012 10:37	
6020A ICP MS (UPDATE IV)	01/03/2013 16:00	13	06/16/2013 13:43	12/21/2012 10:37	
7470A 7471B Mercury	01/03/2013 16:00	13	01/15/2013 13:43	12/21/2012 10:37	
9010C 9012B CYANIDE	01/03/2013 16:00	13	01/01/2013 13:43	12/21/2012 10:37	
DISS. 6020A ICP MS Invoice	01/03/2013 16:00	13	06/16/2013 13:43	12/21/2012 10:37	
IC 300 Anions	01/03/2013 16:00	13	01/15/2013 13:43	12/21/2012 10:37	
NITRATE-NITRITE-N 353.2	01/03/2013 16:00	13	02/04/2013 13:43	12/21/2012 10:37	
VOA-8260B 25ML	01/03/2013 16:00	13	01/01/2013 13:43	12/21/2012 10:37	SubList = VOA - LIBBY (12-31-11)
<b>1212075-02 1R-44818 [Water] Sampled 12/19/2012 12:59 Eastern</b>					
6010C METALS	01/03/2013 16:00	13	06/17/2013 12:59	12/21/2012 10:37	
6010C DISS. METALS VARIABLE Invoice	01/03/2013 16:00	13	06/17/2013 12:59	12/21/2012 10:37	
6020A ICP MS (UPDATE IV)	01/03/2013 16:00	13	06/17/2013 12:59	12/21/2012 10:37	
7470A 7471B Mercury	01/03/2013 16:00	13	01/16/2013 12:59	12/21/2012 10:37	
9010C 9012B CYANIDE	01/03/2013 16:00	13	01/02/2013 12:59	12/21/2012 10:37	
DISS. 6020A ICP MS Invoice	01/03/2013 16:00	13	06/17/2013 12:59	12/21/2012 10:37	
IC 300 Anions	01/03/2013 16:00	13	01/16/2013 12:59	12/21/2012 10:37	
NITRATE-NITRITE-N 353.2	01/03/2013 16:00	13	02/05/2013 12:59	12/21/2012 10:37	
VOA-8260B 25ML	01/03/2013 16:00	13	01/02/2013 12:59	12/21/2012 10:37	SubList = VOA - LIBBY (12-31-11)

## WORK ORDER

Printed: 12/21/2012 6:23:43PM

1212075

## COMPUCHEM

Client:	CDM FEDERAL PROGRAMS CORP.	Project Manager:	Cathy Dover
Project:	LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DA	Project Number:	LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 I
SDG:	1212075	CASE:	Status: Batched

Analysis	Due	TAT	Expires	Comments
1212075-03 TB-1 [Water] Sampled 12/18/2012 00:00 Eastern				TRIP BLK
VOA-8260B 25ML	01/03/2013 16:00	13	01/01/2013 00:00	12/21/2012 10:37 SubList = VOA - LIBBY (12-31-11)

## WORK ORDER

Printed: 12/22/2012 12:52:57PM

1212075

## COMPUCHEM

<b>Client:</b> CDM FEDERAL PROGRAMS CORP.	<b>Project Manager:</b> Cathy Dover
<b>Project:</b> LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DA	<b>Project Number:</b> LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 I
<b>SDG:</b> 1212075	<b>Case:</b>
	<b>Status:</b> Received

Report To:

CDM FEDERAL PROGRAMS CORP.  
TRACY DODGE  
60 Port Blvd., Suite 201  
Libby, MT 59923  
Phone: (406) 293-8595  
Fax: -

Invoice To:

CDM FEDERAL PROGRAMS CORP.  
SUBCONTRACT MANAGER  
14420 ALBEMARLE POINT PLACE, SUITE 210  
CHANTILLY, VA 20151  
Phone :-  
Fax: -

Date Due: 01/04/2013 00:00 (13 day TAT)

Received By: Cathy Dover

Date Received: 12/22/2012 11:24

Logged In By: Cathy Dover

Date Logged In: 12/21/2012 12:52

J & B Flags?: NO	TICS?: NO	Deliverable: Style 3	EDD : 68) LATA EXCEL
Metals ND to? RL/CRQL	Spike Level: FULL Spike		

USE 1212075-01 FOR QC\*VOC 25ML=LIBBY.SUB\*6020A MTL=Sb,As,Be,Cd,Pb,Se,Tl\*6010C MTL=Ba,Cr,Co,Cu,Fe,Ni,Ag,V & Zn\*HG 7470A\*NO2/NO3 353.2 IN H2SO4 PRES.CONTAINER\*IC300=CHL/SO4\*CN 9010C/9012B\*GENERATE THE CUSTOM NO MDL REPORT

Analysis	Due	TAT	Expires	Received	Comments
<b>1212075-01 1R-44817 [Water] Sampled 12/18/2012 13:43 Eastern</b>				<b>USE FOR QC</b>	
NITRATE-NITRITE-N 353.2	01/04/2013 16:00	13	02/04/2013 13:43	12/21/2012 10:37	
6010C DISS. METALS VARIABLE Invoice	01/04/2013 16:00	13	06/16/2013 13:43	12/21/2012 10:37	
VOA-8260B 25ML	01/04/2013 16:00	13	01/01/2013 13:43	12/21/2012 10:37	SubList = VOA - LIBBY (12-31-11)
6020A ICP MS (UPDATE IV)	01/04/2013 16:00	13	06/16/2013 13:43	12/21/2012 10:37	
7470A 7471B Mercury	01/04/2013 16:00	13	01/15/2013 13:43	12/21/2012 10:37	
9010C 9012B CYANIDE	01/04/2013 16:00	13	01/01/2013 13:43	12/21/2012 10:37	
DISS. 6020A ICP MS Invoice	01/04/2013 16:00	13	06/16/2013 13:43	12/21/2012 10:37	
6010C METALS	01/04/2013 16:00	13	06/16/2013 13:43	12/21/2012 10:37	
IC 300 Anions	01/04/2013 16:00	13	01/15/2013 13:43	12/21/2012 10:37	
<b>1212075-02 1R-44818 [Water] Sampled 12/19/2012 12:59 Eastern</b>					
6010C METALS	01/04/2013 16:00	13	06/17/2013 12:59	12/21/2012 10:37	
6020A ICP MS (UPDATE IV)	01/04/2013 16:00	13	06/17/2013 12:59	12/21/2012 10:37	
7470A 7471B Mercury	01/04/2013 16:00	13	01/16/2013 12:59	12/21/2012 10:37	
9010C 9012B CYANIDE	01/04/2013 16:00	13	01/02/2013 12:59	12/21/2012 10:37	
DISS. 6020A ICP MS Invoice	01/04/2013 16:00	13	06/17/2013 12:59	12/21/2012 10:37	
IC 300 Anions	01/04/2013 16:00	13	01/16/2013 12:59	12/21/2012 10:37	
NITRATE-NITRITE-N 353.2	01/04/2013 16:00	13	02/05/2013 12:59	12/21/2012 10:37	
6010C DISS. METALS VARIABLE Invoice	01/04/2013 16:00	13	06/17/2013 12:59	12/21/2012 10:37	
VOA-8260B 25ML	01/04/2013 16:00	13	01/02/2013 12:59	12/21/2012 10:37	SubList = VOA - LIBBY (12-31-11)

## WORK ORDER

Printed: 12/22/2012 12:52:57PM

1212075

## COMPUCHEM

<b>Client:</b> CDM FEDERAL PROGRAMS CORP.	<b>Project Manager:</b> Cathy Dover
<b>Project:</b> LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DA	<b>Project Number:</b> LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DA
<b>SDG:</b> 1212075	<b>Case:</b> Batched

Analysis	Due	TAT	Expires	Comments
<b>1212075-03 TB-1 [Water] Sampled 12/18/2012 00:00 Eastern</b>				
				<b>TRIP BLK</b>
VOA-8260B 25ML	01/04/2013 16:00	13	01/01/2013 00:00	12/21/2012 10:37 SubList = VOA - LIBBY (12-31-11)
<b>1212075-04 1R-45180 [Water] Sampled 12/20/2012 11:20 Eastern</b>				
6010C DISS. METALS VARIABLE Invoice	01/04/2013 16:00	13	06/18/2013 11:20	12/22/2012 11:24
6010C METALS	01/04/2013 16:00	13	06/18/2013 11:20	12/22/2012 11:24
6020A ICP MS (UPDATE IV)	01/04/2013 16:00	13	06/18/2013 11:20	12/22/2012 11:24
7470A 7471B Mercury	01/04/2013 16:00	13	01/17/2013 11:20	12/22/2012 11:24
9010C 9012B CYANIDE	01/04/2013 16:00	13	01/03/2013 11:20	12/22/2012 11:24
DISS. 6020A ICP MS Invoice	01/04/2013 16:00	13	06/18/2013 11:20	12/22/2012 11:24
IC 300 Anions	01/04/2013 16:00	13	01/17/2013 11:20	12/22/2012 11:24
NITRATE-NITRITE-N 353.2	01/04/2013 16:00	13	02/06/2013 11:20	12/22/2012 11:24
VOA-8260B 25ML	01/04/2013 16:00	13	01/03/2013 11:20	12/22/2012 11:24 SubList = VOA - LIBBY (12-31-11)
<b>1212075-05 1R-44819 [Water] Sampled 12/20/2012 11:35 Eastern</b>				
6010C DISS. METALS VARIABLE Invoice	01/04/2013 16:00	13	06/18/2013 11:35	12/22/2012 11:24
VOA-8260B 25ML	01/04/2013 16:00	13	01/03/2013 11:35	12/22/2012 11:24 SubList = VOA - LIBBY (12-31-11)
6020A ICP MS (UPDATE IV)	01/04/2013 16:00	13	06/18/2013 11:35	12/22/2012 11:24
7470A 7471B Mercury	01/04/2013 16:00	13	01/17/2013 11:35	12/22/2012 11:24
9010C 9012B CYANIDE	01/04/2013 16:00	13	01/03/2013 11:35	12/22/2012 11:24
DISS. 6020A ICP MS Invoice	01/04/2013 16:00	13	06/18/2013 11:35	12/22/2012 11:24
IC 300 Anions	01/04/2013 16:00	13	01/17/2013 11:35	12/22/2012 11:24
NITRATE-NITRITE-N 353.2	01/04/2013 16:00	13	02/06/2013 11:35	12/22/2012 11:24
6010C METALS	01/04/2013 16:00	13	06/18/2013 11:35	12/22/2012 11:24
<b>1212075-06 TB-2 [Water] Sampled 12/18/2012 00:00 Eastern</b>				
				<b>TRIP BLK</b>
VOA-8260B 25ML	01/04/2013 16:00	13	01/01/2013 00:00	12/22/2012 11:24 SubList = VOA - LIBBY (12-31-11)

# SURROGATE STANDARD RECOVERY

SW 8260B

Client: CDM FEDERAL PROGRAMS CORP.

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

SDG: 1212075

Instrument: 5972hp71

Sequence: 2L27004

Calibration: 2122807

Surrogate Compound	Spike Level	% Recovery	Recovery Limits	Q
<b>Blank (2122704-BLK1 ) ug/L</b>				
Lab File ID: 2122704-BLK1R71.d		Analyzed: 12/27/12 18:30		
Dibromofluoromethane	5.000	117	65 - 150	
1,2-Dichloroethane-d4	5.000	113	59 - 150	
Toluene-d8	5.000	108	61 - 145	
Bromofluorobenzene	5.000	102	63 - 143	
<b>LCS (2122704-BS1 ) ug/L</b>				
Lab File ID: 2122704-BS171.d		Analyzed: 12/27/12 18:59		
Dibromofluoromethane	5.000	112	65 - 150	
1,2-Dichloroethane-d4	5.000	117	59 - 150	
Toluene-d8	5.000	100	61 - 145	
Bromofluorobenzene	5.000	99	63 - 143	
<b>LCS Dup (2122704-BSD1 ) ug/L</b>				
Lab File ID: 2122704-BSD1R71.d		Analyzed: 12/27/12 20:39		
Dibromofluoromethane	5.000	114	65 - 150	
1,2-Dichloroethane-d4	5.000	119	59 - 150	
Toluene-d8	5.000	98	61 - 145	
Bromofluorobenzene	5.000	92	63 - 143	
<b>1R-44817 (1212075-01 ) ug/L</b>				
Lab File ID: 1212075-0171.d		Analyzed: 12/27/12 22:25		
Dibromofluoromethane	5.000	120	65 - 150	
1,2-Dichloroethane-d4	5.000	125	59 - 150	
Toluene-d8	5.000	104	61 - 145	
Bromofluorobenzene	5.000	105	63 - 143	



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# SURROGATE STANDARD RECOVERY

SW 8260B

Client: CDM FEDERAL PROGRAMS CORP.

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

SDG: 1212075

Instrument: 5972hp71

Sequence: 2L27004

Calibration: 2122807

Surrogate Compound	Spike Level	% Recovery	Recovery Limits	Q
<b>Matrix Spike (2122704-MS1) ug/L</b>				
Lab File ID: 2122704-MS171.d		Analyzed: 12/27/12 22:55		
Dibromofluoromethane	5.000	113	65 - 150	
1,2-Dichloroethane-d4	5.000	125	59 - 150	
Toluene-d8	5.000	100	61 - 145	
Bromofluorobenzene	5.000	97	63 - 143	
<b>Matrix Spike Dup (2122704-MSD1) ug/L</b>				
Lab File ID: 2122704-MSD171.d		Analyzed: 12/27/12 23:25		
Dibromofluoromethane	5.000	116	65 - 150	
1,2-Dichloroethane-d4	5.000	119	59 - 150	
Toluene-d8	5.000	97	61 - 145	
Bromofluorobenzene	5.000	97	63 - 143	
<b>1R-44818 (1212075-02) ug/L</b>				
Lab File ID: 1212075-0271.d		Analyzed: 12/27/12 23:54		
Dibromofluoromethane	5.000	121	65 - 150	
1,2-Dichloroethane-d4	5.000	123	59 - 150	
Toluene-d8	5.000	103	61 - 145	
Bromofluorobenzene	5.000	98	63 - 143	
<b>TB-1 (1212075-03) ug/L</b>				
Lab File ID: 1212075-0371.d		Analyzed: 12/28/12 00:24		
Dibromofluoromethane	5.000	121	65 - 150	
1,2-Dichloroethane-d4	5.000	127	59 - 150	
Toluene-d8	5.000	105	61 - 145	
Bromofluorobenzene	5.000	98	63 - 143	



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# SURROGATE STANDARD RECOVERY

SW 8260B

Client: CDM FEDERAL PROGRAMS CORP.

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

SDG: 1212075

Instrument: 5972hp71

Sequence: 2L27004

Calibration: 2122807

Surrogate Compound	Spike Level	% Recovery	Recovery Limits	Q
<b>1R-45180 (1212075-04 ) ug/L</b>				
Lab File ID: 1212075-0471.d Analyzed: 12/28/12 00:54				
Dibromofluoromethane	5.000	119	65 - 150	
1,2-Dichloroethane-d4	5.000	131	59 - 150	
Toluene-d8	5.000	103	61 - 145	
Bromofluorobenzene	5.000	103	63 - 143	
<b>1R-44819 (1212075-05 ) ug/L</b>				
Lab File ID: 1212075-0571.d Analyzed: 12/28/12 01:23				
Dibromofluoromethane	5.000	127	65 - 150	
1,2-Dichloroethane-d4	5.000	129	59 - 150	
Toluene-d8	5.000	105	61 - 145	
Bromofluorobenzene	5.000	99	63 - 143	
<b>TB-2 (1212075-06 ) ug/L</b>				
Lab File ID: 1212075-0671.d Analyzed: 12/28/12 01:53				
Dibromofluoromethane	5.000	131	65 - 150	
1,2-Dichloroethane-d4	5.000	139	59 - 150	
Toluene-d8	5.000	106	61 - 145	
Bromofluorobenzene	5.000	103	63 - 143	



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# LCS / LCS DUPLICATE RECOVERY

SW 8260B

Client: CDM FEDERAL PROGRAMS CORP. SDG: 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab ID: 2122704-BS1 Matrix: Water Client ID: VLCSNJ Batch: 2122704

ANALYTE	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC.	Q	QC LIMITS REC.
Dichlorodifluoromethane	5.000	5.693	114		50 - 150
Chloromethane	5.000	6.044	121		50 - 150
Vinyl chloride	5.000	5.707	114		61 - 150
Bromomethane	5.000	4.075	81		50 - 150
Chloroethane	5.000	5.865	117		54 - 150
Trichlorofluoromethane	5.000	5.364	107		56 - 150
1,1-Dichloroethene	5.000	5.658	113		74 - 143
Acetone	25.00	30.43	122		50 - 150
Iodomethane	5.000	3.527	71		50 - 150
Carbon disulfide	5.000	6.152	123		50 - 150
Methylene chloride	5.000	5.919	118		50 - 139
Acrylonitrile	100.0	53.11	53		50 - 150
trans-1,2-Dichloroethene	5.000	6.012	120		50 - 137
1,1-Dichloroethane	5.000	6.100	122		59 - 138
Vinyl acetate	10.00	10.94	109		50 - 150
cis-1,2-Dichloroethene	5.000	5.404	108		69 - 140
2-Butanone	25.00	25.04	100		65 - 134
Bromochloromethane	5.000	5.262	105		50 - 150
Chloroform	5.000	5.873	117		67 - 147
1,1,1-Trichloroethane	5.000	5.823	116		71 - 137
Carbon tetrachloride	5.000	5.476	110		68 - 145
1,2-Dichloroethane	5.000	5.774	115		61 - 150
Benzene	5.000	5.645	113		68 - 138
Trichloroethene	5.000	5.399	108		55 - 150
1,2-Dichloropropane	5.000	5.596	112		67 - 137



# LCS / LCS DUPLICATE RECOVERY

SW 8260B

Client: CDM FEDERAL PROGRAMS CORP.      SDG: 1212075      Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab ID: 2122704-BS1      Matrix: Water      Client ID: VLCSNJ      Batch: 2122704

ANALYTE	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC.	Q	QC LIMITS REC.
Dibromomethane	5.000	4.857	97		50 - 150
Bromodichloromethane	5.000	5.564	111		73 - 142
cis-1,3-Dichloropropene	5.000	5.365	107		74 - 134
4-Methyl-2-pentanone	25.00	22.40	90		66 - 127
Toluene	5.000	5.007	100		60 - 142
trans-1,3-Dichloropropene	5.000	4.820	96		66 - 130
1,1,2-Trichloroethane	5.000	4.922	98		68 - 130
Tetrachloroethene	5.000	4.675	94		65 - 137
2-Hexanone	25.00	21.94	88		53 - 140
Dibromochloromethane	5.000	4.537	91		68 - 137
1,2-Dibromoethane	5.000	4.728	95		73 - 128
Chlorobenzene	5.000	5.025	101		68 - 129
1,1,1,2-Tetrachloroethane	5.000	4.861	97		50 - 150
Ethylbenzene	5.000	5.256	105		67 - 127
m,p-Xylene	10.00	10.39	104		60 - 140
o-Xylene	5.000	5.035	101		60 - 140
Styrene	5.000	4.991	100		66 - 139
Bromoform	5.000	4.381	88		62 - 138
1,1,2,2-Tetrachloroethane	5.000	4.813	96		63 - 122
1,2,3-Trichloropropane	5.000	5.250	105		50 - 150
trans-1,4-Dichloro-2-butene	20.00	19.64	98		50 - 150
1,4-Dichlorobenzene	5.000	5.065	101		69 - 125
1,2-Dichlorobenzene	5.000	4.886	98		71 - 127
1,2-Dibromo-3-chloropropane	5.000	4.881	98		71 - 128
Xylenes (total)	15.00	15.43	103		60 - 140



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# LCS / LCS DUPLICATE RECOVERY

SW 8260B

Client: CDM FEDERAL PROGRAMS CORP.      SDG: 1212075      Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab ID: 2122704-BSD1      Matrix: Water      Client ID: VLCSDNJ      Batch: 2122704

ANALYTE	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC. #	% RPD #	QC LIMITS		
					RPD	Q	REC.
Dichlorodifluoromethane	5.000	6.064	121	6	25		50 - 150
Chloromethane	5.000	6.194	124	2	25		50 - 150
Vinyl chloride	5.000	6.441	129	12	25		61 - 150
Bromomethane	5.000	4.867	97	18	25		50 - 150
Chloroethane	5.000	5.868	117	0.05	25		54 - 150
Trichlorofluoromethane	5.000	5.636	113	5	25		56 - 150
1,1-Dichloroethene	5.000	5.730	115	1	14		74 - 143
Acetone	25.00	29.33	117	4	25		50 - 150
Iodomethane	5.000	3.943	79	11	25		50 - 150
Carbon disulfide	5.000	6.032	121	2	25		50 - 150
Methylene chloride	5.000	6.164	123	4	25		50 - 139
Acrylonitrile	100.0	56.42	56	6	25		50 - 150
trans-1,2-Dichloroethene	5.000	5.918	118	2	25		50 - 137
1,1-Dichloroethane	5.000	6.217	124	2	25		59 - 138
Vinyl acetate	10.00	11.36	114	4	25		50 - 150
cis-1,2-Dichloroethene	5.000	5.641	113	4	25		69 - 140
2-Butanone	25.00	26.68	107	6	25		65 - 134
Bromochloromethane	5.000	5.705	114	8	25		50 - 150
Chloroform	5.000	6.158	123	5	25		67 - 147
1,1,1-Trichloroethane	5.000	5.977	120	3	25		71 - 137
Carbon tetrachloride	5.000	5.538	111	1	25		68 - 145
1,2-Dichloroethane	5.000	6.111	122	6	25		61 - 150
Benzene	5.000	5.835	117	3	11		68 - 138
Trichloroethene	5.000	5.419	108	0.4	14		55 - 150
1,2-Dichloropropane	5.000	5.637	113	0.7	25		67 - 137



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# LCS / LCS DUPLICATE RECOVERY

SW 8260B

Client: CDM FEDERAL PROGRAMS CORP.      SDG: 1212075      Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab ID: 2122704-BSD1      Matrix: Water      Client ID: VLCSDNJ      Batch: 2122704

ANALYTE	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC. #	% RPD #	QC LIMITS		
					RPD	Q	REC.
Dibromomethane	5.000	5.650	113	15	25		50 - 150
Bromodichloromethane	5.000	5.857	117	5	25		73 - 142
cis-1,3-Dichloropropene	5.000	5.804	116	8	25		74 - 134
4-Methyl-2-pentanone	25.00	23.74	95	6	25		66 - 127
Toluene	5.000	5.075	102	1	13		60 - 142
trans-1,3-Dichloropropene	5.000	5.388	108	11	25		66 - 130
1,1,2-Trichloroethane	5.000	5.178	104	5	25		68 - 130
Tetrachloroethene	5.000	4.991	100	7	25		65 - 137
2-Hexanone	25.00	24.07	96	9	25		53 - 140
Dibromochloromethane	5.000	4.774	95	5	25		68 - 137
1,2-Dibromoethane	5.000	4.778	96	1	25		73 - 128
Chlorobenzene	5.000	5.248	105	4	13		68 - 129
1,1,1,2-Tetrachloroethane	5.000	5.097	102	5	25		50 - 150
Ethylbenzene	5.000	5.445	109	4	25		67 - 127
m,p-Xylene	10.00	10.67	107	3	25		60 - 140
o-Xylene	5.000	5.403	108	7	25		60 - 140
Styrene	5.000	5.244	105	5	25		66 - 139
Bromoform	5.000	4.338	87	1	25		62 - 138
1,1,2,2-Tetrachloroethane	5.000	4.983	100	3	25		63 - 122
1,2,3-Trichloropropane	5.000	5.825	117	10	25		50 - 150
trans-1,4-Dichloro-2-butene	20.00	20.70	104	5	25		50 - 150
1,4-Dichlorobenzene	5.000	5.056	101	0.2	25		69 - 125
1,2-Dichlorobenzene	5.000	4.844	97	0.9	25		71 - 127
1,2-Dibromo-3-chloropropane	5.000	4.703	94	4	25		71 - 128
Xylenes (total)	15.00	16.07	107	4	25		60 - 140



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# MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

1R-44817MS

SW 8260B

Client: CDM FEDERAL PROGRAMS CORP.

SDG: 1212075

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab ID: 2122704-MS1

% Solid: NA

Matrix: Water

Lab Source ID: 1212075-01

Source Sample: 1R-44817

ANALYTE	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC.	Q	QC LIMITS REC.
Dichlorodifluoromethane	5.000	0.50 U	6.044	121		50 - 150
Chloromethane	5.000	0.50 U	6.547	131		50 - 150
Vinyl chloride	5.000	0.50 U	6.255	125		61 - 150
Bromomethane	5.000	0.50 U	5.001	100		50 - 150
Chloroethane	5.000	0.50 U	6.161	123		54 - 150
Trichlorofluoromethane	5.000	0.50 U	5.517	110		56 - 150
1,1-Dichloroethene	5.000	0.50 U	5.445	109		74 - 143
Acetone	25.00	2.5 U	28.76	115		50 - 150
Iodomethane	5.000	0.50 U	3.366	67		50 - 150
Carbon disulfide	5.000	0.50 U	6.258	125		50 - 150
Methylene chloride	5.000	0.50 U	6.426	129		50 - 139
Acrylonitrile	100.0	5.0 U	53.90	54		50 - 150
trans-1,2-Dichloroethene	5.000	0.50 U	5.837	117		50 - 137
1,1-Dichloroethane	5.000	0.50 U	6.345	127		59 - 138
Vinyl acetate	10.00	1.0 U	11.21	112		50 - 150
cis-1,2-Dichloroethene	5.000	0.50 U	5.690	114		69 - 140
2-Butanone	25.00	2.5 U	25.75	103		65 - 134
Bromochloromethane	5.000	0.50 U	5.645	113		50 - 150
Chloroform	5.000	0.50 U	6.004	120		67 - 147
1,1,1-Trichloroethane	5.000	0.50 U	5.834	117		71 - 137
Carbon tetrachloride	5.000	0.50 U	5.454	109		68 - 145
1,2-Dichloroethane	5.000	0.50 U	6.088	122		61 - 150
Benzene	5.000	0.50 U	5.873	117		68 - 138
Trichloroethene	5.000	0.50 U	5.306	106		55 - 150
1,2-Dichloropropane	5.000	0.50 U	6.032	121		67 - 137
Dibromomethane	5.000	0.50 U	5.020	100		50 - 150
Bromodichloromethane	5.000	0.50 U	5.792	116		73 - 142
cis-1,3-Dichloropropene	5.000	0.50 U	5.506	110		74 - 134



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# MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

SW 8260B

1R-44817MS

Client: CDM FEDERAL PROGRAMS CORP.

SDG: 1212075

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab ID: 2122704-MS1

% Solid: NA

Matrix: Water

Lab Source ID: 1212075-01

Source Sample: 1R-44817

ANALYTE	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC.	Q	QC LIMITS REC.
4-Methyl-2-pentanone	25.00	2.5 U	23.32	93		66 - 127
Toluene	5.000	0.1593 J	5.163	100		60 - 142
trans-1,3-Dichloropropene	5.000	0.50 U	5.152	103		66 - 130
1,1,2-Trichloroethane	5.000	0.50 U	5.212	104		68 - 130
Tetrachloroethene	5.000	0.50 U	4.976	100		65 - 137
2-Hexanone	25.00	2.5 U	22.36	89		53 - 140
Dibromochloromethane	5.000	0.50 U	4.828	97		68 - 137
1,2-Dibromoethane	5.000	0.50 U	4.511	90		73 - 128
Chlorobenzene	5.000	0.50 U	5.256	105		68 - 129
1,1,1,2-Tetrachloroethane	5.000	0.50 U	5.162	103		50 - 150
Ethylbenzene	5.000	0.50 U	5.433	109		67 - 127
m,p-Xylene	10.00	1.0 U	10.43	104		60 - 140
o-Xylene	5.000	0.50 U	5.258	105		60 - 140
Styrene	5.000	0.50 U	5.292	106		66 - 139
Bromoform	5.000	0.50 U	4.502	90		62 - 139
1,1,2,2-Tetrachloroethane	5.000	0.50 U	5.123	102		63 - 122
1,2,3-Trichloropropane	5.000	0.50 U	5.224	104		50 - 150
trans-1,4-Dichloro-2-butene	20.00	2.0 U	20.13	101		50 - 150
1,4-Dichlorobenzene	5.000	0.50 U	5.187	104		69 - 125
1,2-Dichlorobenzene	5.000	0.50 U	5.044	101		71 - 127
1,2-Dibromo-3-chloropropane	5.000	0.50 U	4.750	95		71 - 128
1,2-Dichloroethene (total)		0.50 U	11.53	0		50 - 150
Xylenes (total)	15.00	0.50 U	15.69	105		60 - 140



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# MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

1R-44817MSD

SW 8260B

Client: CDM FEDERAL PROGRAMS CORP. SDG: 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab ID: 2122704-MSD1 % Solid: NA Matrix: Water Lab Source ID: 1212075-01 Source Sample: 1R-44817

ANALYTE	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD	Q	QC LIMITS	
						RPD	REC.
Dichlorodifluoromethane	5.000	6.364	127	5		25	50 - 150
Chloromethane	5.000	6.855	137	5		25	50 - 150
Vinyl chloride	5.000	6.639	133	6		25	61 - 150
Bromomethane	5.000	5.033	101	0.6		25	50 - 150
Chloroethane	5.000	6.141	123	0.3		25	54 - 150
Trichlorofluoromethane	5.000	5.852	117	6		25	56 - 150
1,1-Dichloroethene	5.000	5.739	115	5		14	74 - 143
Acetone	25.00	30.14	121	5		25	50 - 150
Iodomethane	5.000	4.020	80	18		25	50 - 150
Carbon disulfide	5.000	6.476	130	3		25	50 - 150
Methylene chloride	5.000	6.850	137	6		25	50 - 139
Acrylonitrile	100.0	53.00	53	2		25	50 - 150
trans-1,2-Dichloroethene	5.000	6.046	121	4		25	50 - 137
1,1-Dichloroethane	5.000	6.315	126	0.5		25	59 - 138
Vinyl acetate	10.00	10.69	107	5		25	50 - 150
cis-1,2-Dichloroethene	5.000	6.029	121	6		25	69 - 140
2-Butanone	25.00	25.54	102	0.8		25	65 - 134
Bromochloromethane	5.000	5.408	108	4		25	50 - 150
Chloroform	5.000	6.247	125	4		25	67 - 147
1,1,1-Trichloroethane	5.000	6.097	122	4		25	71 - 137
Carbon tetrachloride	5.000	5.565	111	2		25	68 - 145
1,2-Dichloroethane	5.000	6.084	122	0.05		25	61 - 150
Benzene	5.000	6.051	121	3		11	68 - 138
Trichloroethene	5.000	5.627	113	6		14	55 - 150
1,2-Dichloropropane	5.000	5.542	111	8		25	67 - 137
Dibromomethane	5.000	5.418	108	8		25	50 - 150
Bromodichloromethane	5.000	5.970	119	3		25	73 - 142
cis-1,3-Dichloropropene	5.000	5.434	109	1		25	74 - 134
4-Methyl-2-pentanone	25.00	20.73	83	12		25	66 - 127



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# MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

1R-44817MSD

SW 8260B

Client: CDM FEDERAL PROGRAMS CORP. SDG: 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab ID: 2122704-MSD1 % Solid: NA Matrix: Water Lab Source ID: 1212075-01 Source Sample: 1R-44817

ANALYTE	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD	Q	QC LIMITS	
						RPD	REC.
Toluene	5.000	5.025	97	3		13	60 - 142
trans-1,3-Dichloropropene	5.000	4.963	99	4		25	66 - 130
1,1,2-Trichloroethane	5.000	4.934	99	5		25	68 - 130
Tetrachloroethene	5.000	4.693	94	6		25	65 - 137
2-Hexanone	25.00	20.27	81	10		25	53 - 140
Dibromochloromethane	5.000	4.490	90	7		25	68 - 137
1,2-Dibromoethane	5.000	4.492	90	0.4		25	73 - 128
Chlorobenzene	5.000	5.045	101	4		13	68 - 129
1,1,1,2-Tetrachloroethane	5.000	4.929	99	5		25	50 - 150
Ethylbenzene	5.000	5.220	104	4		25	67 - 127
m,p-Xylene	10.00	10.30	103	1		25	60 - 140
o-Xylene	5.000	5.095	102	3		25	60 - 140
Styrene	5.000	5.050	101	5		25	66 - 139
Bromoform	5.000	3.948	79	13		25	62 - 139
1,1,2,2-Tetrachloroethane	5.000	4.739	95	8		25	63 - 122
1,2,3-Trichloropropane	5.000	4.954	99	5		25	50 - 150
trans-1,4-Dichloro-2-butene	20.00	18.22	91	10		25	50 - 150
1,4-Dichlorobenzene	5.000	5.140	103	0.9		25	69 - 125
1,2-Dichlorobenzene	5.000	4.857	97	4		25	71 - 127
1,2-Dibromo-3-chloropropane	5.000	4.502	90	5		25	71 - 128
1,2-Dichloroethene (total)		12.07	0	5		25	50 - 150
Xylenes (total)	15.00	15.39	103	2		25	60 - 140



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## PREPARATION BATCH SUMMARY

SW 8260B

Client: CDM FEDERAL PROGRAMS CORP.

SDG: 1212075

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Batch: 2122704

Matrix: Water

Preparation: SW 5030A/5030B

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL/WT (mL)	FINAL VOL/WT (mL)
IR-44817	1212075-01	12/27/12 18:30	25.0	25.0
IR-44818	1212075-02	12/27/12 18:30	25.0	25.0
TB-1	1212075-03	12/27/12 18:30	25.0	25.0
IR-45180	1212075-04	12/27/12 18:30	25.0	25.0
IR-44819	1212075-05	12/27/12 18:30	25.0	25.0
TB-2	1212075-06	12/27/12 18:30	25.0	25.0
VBLKNJ	2122704-BLK1	12/27/12 18:30	25.0	25.0
VLCSNJ	2122704-BS1	12/27/12 18:30	25.0	25.0
VLCSDNJ	2122704-BSD1	12/27/12 18:30	25.0	25.0
IR-44817MS	2122704-MS1	12/27/12 18:30	25.0	25.0
IR-44817MSD	2122704-MSD1	12/27/12 18:30	25.0	25.0



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## ANALYSIS DATA SHEET

SW 8260B

1R-44817

Client: CDM FEDERAL PROGRAMS CORP. SDG 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAYMatrix: Water Preparation: SW 5030A/5030B File ID: 1212075-0171.d Sampled: 12/18/12 13:43Initial/Final: 25mL / 25mL Lab ID: 1212075-01 Received: 12/21/12 10:37Dilution: 1 pH: 1 Prepared: 12/27/12 18:30% Moisture: NA Analyzed: 12/27/12 22:25Batch: 2122704 Sequence: 2L27004 Calibration: 2122807 Instrument: 5972hp71

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
75-71-8	Dichlorodifluoromethane		0.030	0.50	U
74-87-3	Chloromethane		0.11	0.50	U
75-01-4	Vinyl chloride		0.070	0.50	U
74-83-9	Bromomethane		0.11	0.50	U
75-00-3	Chloroethane		0.20	0.50	U
75-69-4	Trichlorofluoromethane		0.060	0.50	U
75-35-4	1,1-Dichloroethene		0.040	0.50	U
67-64-1	Acetone		0.44	2.5	U
74-88-4	Iodomethane		0.030	0.50	U
75-15-0	Carbon disulfide		0.020	0.50	U
75-09-2	Methylene chloride		0.020	0.50	U
107-13-1	Acrylonitrile		0.36	5.0	U
156-60-5	trans-1,2-Dichloroethene		0.050	0.50	U
75-34-3	1,1-Dichloroethane		0.020	0.50	U
108-05-4	Vinyl acetate		0.060	1.0	U
156-59-2	cis-1,2-Dichloroethene		0.030	0.50	U
78-93-3	2-Butanone		0.28	2.5	U
74-97-5	Bromochloromethane		0.040	0.50	U
67-66-3	Chloroform		0.030	0.50	U
71-55-6	1,1,1-Trichloroethane		0.020	0.50	U
56-23-5	Carbon tetrachloride		0.030	0.50	U
107-06-2	1,2-Dichloroethane		0.030	0.50	U
71-43-2	Benzene		0.030	0.50	U
79-01-6	Trichloroethene		0.030	0.50	U
78-87-5	1,2-Dichloropropane		0.12	0.50	U
74-95-3	Dibromomethane		0.030	0.50	U
75-27-4	Bromodichloromethane		0.030	0.50	U
10061-01-5	cis-1,3-Dichloropropene		0.040	0.50	U
108-10-1	4-Methyl-2-pentanone		0.42	2.5	U
108-88-3	Toluene		0.030	0.50	U
10061-02-6	trans-1,3-Dichloropropene		0.050	0.50	U
79-00-5	1,1,2-Trichloroethane		0.040	0.50	U



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## ANALYSIS DATA SHEET

SW 8260B

1R-44817

Client: CDM FEDERAL PROGRAMS CORP. SDG 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAYMatrix: Water Preparation: SW 5030A/5030B File ID: 1212075-0171.d Sampled: 12/18/12 13:43Initial/Final: 25mL / 25mL Lab ID: 1212075-01 Received: 12/21/12 10:37Dilution: 1 pH: 1 Prepared: 12/27/12 18:30% Moisture: NA Analyzed: 12/27/12 22:25Batch: 2122704 Sequence: 2L27004 Calibration: 2122807 Instrument: 5972hp71

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q	
127-18-4	Tetrachloroethene		0.060	0.50	U	
591-78-6	2-Hexanone		0.51	2.5	U	
124-48-1	Dibromochloromethane		0.040	0.50	U	
106-93-4	1,2-Dibromoethane		0.040	0.50	U	
108-90-7	Chlorobenzene		0.020	0.50	U	
630-20-6	1,1,1,2-Tetrachloroethane		0.020	0.50	U	
100-41-4	Ethylbenzene		0.040	0.50	U	
179601-23-1	m,p-Xylene		0.080	1.0	U	
95-47-6	o-Xylene		0.030	0.50	U	
100-42-5	Styrene		0.020	0.50	U	
75-25-2	Bromoform		0.030	0.50	U	
79-34-5	1,1,2,2-Tetrachloroethane		0.050	0.50	U	
96-18-4	1,2,3-Trichloropropane		0.090	0.50	U	
110-57-6	trans-1,4-Dichloro-2-butene		0.33	2.0	U	
106-46-7	1,4-Dichlorobenzene		0.030	0.50	U	
95-50-1	1,2-Dichlorobenzene		0.030	0.50	U	
96-12-8	1,2-Dibromo-3-chloropropane		0.25	0.50	U	
540-59-0	1,2-Dichloroethene (total)		0.030	0.50	U	
1330-20-7	Xylenes (total)		0.030	0.50	U	
SURROGATE RECOVERY RESULTS		ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane		5.000	6.009	120	65 - 150	
1,2-Dichloroethane-d4		5.000	6.241	125	59 - 150	
Toluene-d8		5.000	5.209	104	61 - 145	
Bromofluorobenzene		5.000	5.247	105	63 - 143	



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# ANALYSIS DATA SHEET

## SW 8260B

1R-44818

Client: CDM FEDERAL PROGRAMS CORP. SDG 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14'DAY

Matrix: Water Preparation: SW 5030A/5030B File ID: 1212075-0271.d Sampled: 12/19/12 12:59

Initial/Final: 25mL / 25mL Lab ID: 1212075-02 Received: 12/21/12 10:37

Dilution: 1 pH: 1 Prepared: 12/27/12 18:30

% Moisture: NA Analyzed: 12/27/12 23:54

Batch: 2122704 Sequence: 2L27004 Calibration: 2122807 Instrument: 5972hp71

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
75-71-8	Dichlorodifluoromethane		0.030	0.50	U
74-87-3	Chloromethane		0.11	0.50	U
75-01-4	Vinyl chloride		0.070	0.50	U
74-83-9	Bromomethane		0.11	0.50	U
75-00-3	Chloroethane		0.20	0.50	U
75-69-4	Trichlorofluoromethane		0.060	0.50	U
75-35-4	1,1-Dichloroethene		0.040	0.50	U
67-64-1	Acetone	44	0.44	2.5	
74-88-4	Iodomethane		0.030	0.50	U
75-15-0	Carbon disulfide		0.020	0.50	U
75-09-2	Methylene chloride		0.020	0.50	U
107-13-1	Acrylonitrile		0.36	5.0	U
156-60-5	trans-1,2-Dichloroethene		0.050	0.50	U
75-34-3	1,1-Dichloroethane		0.020	0.50	U
108-05-4	Vinyl acetate		0.060	1.0	U
156-59-2	cis-1,2-Dichloroethene		0.030	0.50	U
78-93-3	2-Butanone		0.28	2.5	U
74-97-5	Bromochloromethane		0.040	0.50	U
67-66-3	Chloroform		0.030	0.50	U
71-55-6	1,1,1-Trichloroethane		0.020	0.50	U
56-23-5	Carbon tetrachloride		0.030	0.50	U
107-06-2	1,2-Dichloroethane		0.030	0.50	U
71-43-2	Benzene		0.030	0.50	U
79-01-6	Trichloroethene		0.030	0.50	U
78-87-5	1,2-Dichloropropane		0.12	0.50	U
74-95-3	Dibromomethane		0.030	0.50	U
75-27-4	Bromodichloromethane		0.030	0.50	U
10061-01-5	cis-1,3-Dichloropropene		0.040	0.50	U
108-10-1	4-Methyl-2-pentanone		0.42	2.5	U
108-88-3	Toluene		0.030	0.50	U
10061-02-6	trans-1,3-Dichloropropene		0.050	0.50	U
79-00-5	1,1,2-Trichloroethane		0.040	0.50	U



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## ANALYSIS DATA SHEET

SW 8260B

1R-44818

Client: GDM FEDERAL PROGRAMS CORP. SDG 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAYMatrix: Water Preparation: SW 5030A/5030B File ID: 1212075-0271.d Sampled: 12/19/12 12:59Initial/Final: 25mL / 25mL Lab ID: 1212075-02 Received: 12/21/12 10:37Dilution: 1 pH: 1 Prepared: 12/27/12 18:30% Moisture: NA Analyzed: 12/27/12 23:54Batch: 2122704 Sequence: 2L27004 Calibration: 2122807 Instrument: 5972hp71

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q	
127-18-4	Tetrachloroethene		0.060	0.50	U	
591-78-6	2-Hexanone		0.51	2.5	U	
124-48-1	Dibromochloromethane		0.040	0.50	U	
106-93-4	1,2-Dibromoethane		0.040	0.50	U	
108-90-7	Chlorobenzene		0.020	0.50	U	
630-20-6	1,1,1,2-Tetrachloroethane		0.020	0.50	U	
100-41-4	Ethylbenzene		0.040	0.50	U	
179601 23 1	m,p-Xylenc		0.080	1.0	U	
95-47-6	o-Xylene		0.030	0.50	U	
100-42-5	Styrene		0.020	0.50	U	
75-25-2	Bromoform		0.030	0.50	U	
79-34-5	1,1,2,2-Tetrachloroethane		0.050	0.50	U	
96-18-4	1,2,3-Trichloropropane		0.090	0.50	U	
110-57-6	trans-1,4-Dichloro-2-butene		0.33	2.0	U	
106-46-7	1,4-Dichlorobenzene		0.030	0.50	U	
95-50-1	1,2-Dichlorobenzene		0.030	0.50	U	
96-12-8	1,2-Dibromo-3-chloropropane		0.25	0.50	U	
540-59-0	1,2-Dichloroethene (total)		0.030	0.50	U	
1330-20-7	Xylenes (total)		0.030	0.50	U	
SURROGATE RECOVERY RESULTS		ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane		5.000	6.073	121	65 - 150	
1,2-Dichloroethane-d4		5.000	6.169	123	59 - 150	
Toluene-d8		5.000	5.154	103	61 - 145	
Bromofluorobenzene		5.000	4.891	98	63 - 143	



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# ANALYSIS DATA SHEET

## SW 8260B

1R-44819

Client: CDM FEDERAL PROGRAMS CORP. SDG 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Matrix: Water Preparation: SW 5030A/5030B File ID: 1212075-0571.d Sampled: 12/20/12 11:35

Initial/Final: 25mL / 25mL Lab ID: 1212075-05 Received: 12/22/12 11:24

Dilution: 1 pH: 1 Prepared: 12/27/12 18:30

% Moisture: NA Analyzed: 12/28/12 01:23

Batch: 2122704 Sequence: 2L27004 Calibration: 2122807 Instrument: 5972hp71

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
75-71-8	Dichlorodifluoromethane		0.030	0.50	U
74-87-3	Chloromethane	0.91	0.11	0.50	
75-01-4	Vinyl chloride		0.070	0.50	U
74-83-9	Bromomethane		0.11	0.50	U
75-00-3	Chloroethane		0.20	0.50	U
75-69-4	Trichlorofluoromethane		0.060	0.50	U
75-35-4	1,1-Dichloroethene		0.040	0.50	U
67-64-1	Acetone	7.6	0.44	2.5	
74-88-4	Iodomethane		0.030	0.50	U
75-15-0	Carbon disulfide		0.020	0.50	U
75-09-2	Methylene chloride		0.020	0.50	U
107-13-1	Acrylonitrile		0.36	5.0	U
156-60-5	trans-1,2-Dichloroethene		0.050	0.50	U
75-34-3	1,1-Dichloroethane		0.020	0.50	U
108-05-4	Vinyl acetate		0.060	1.0	U
156-59-2	cis-1,2-Dichloroethene		0.030	0.50	U
78-93-3	2-Butanone		0.28	2.5	U
74-97-5	Bromochloromethane		0.040	0.50	U
67-66-3	Chloroform		0.030	0.50	U
71-55-6	1,1,1-Trichloroethane		0.020	0.50	U
56-23-5	Carbon tetrachloride		0.030	0.50	U
107-06-2	1,2-Dichloroethane		0.030	0.50	U
71-43-2	Benzene		0.030	0.50	U
79-01-6	Trichloroethene		0.030	0.50	U
78-87-5	1,2-Dichloropropane		0.12	0.50	U
74-95-3	Dibromomethane		0.030	0.50	U
75-27-4	Bromodichloromethane		0.030	0.50	U
10061-01-5	cis-1,3-Dichloropropene		0.040	0.50	U
108-10-1	4-Methyl-2-pentanone		0.42	2.5	U
108-88-3	Toluene	0.61	0.030	0.50	
10061-02-6	trans-1,3-Dichloropropene		0.050	0.50	U
79-00-5	1,1,2-Trichloroethane		0.040	0.50	U



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## ANALYSIS DATA SHEET

SW 8260B

1R-44819

Client: CDM FEDERAL PROGRAMS CORP. SDG 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAYMatrix: Water Preparation: SW 5030A/5030B File ID: 1212075-0571.d Sampled: 12/20/12 11:35Initial/Final: 25mL / 25mL Lab ID: 1212075-05 Received: 12/22/12 11:24Dilution: 1 pH: 1 Prepared: 12/27/12 18:30% Moisture: NA Analyzed: 12/28/12 01:23Batch: 2122704 Sequence: 2L27004 Calibration: 2122807 Instrument: 5972hp71

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
127-18-4	Tetrachloroethene		0.060	0.50	U
591-78-6	2-Hexanone		0.51	2.5	U
124-48-1	Dibromochloromethane		0.040	0.50	U
106-93-4	1,2-Dibromoethane		0.040	0.50	U
108-90-7	Chlorobenzene		0.020	0.50	U
630-20-6	1,1,1,2-Tetrachloroethane		0.020	0.50	U
100-41-4	Ethylbenzene		0.040	0.50	U
179601-23-1	m,p-Xylene		0.080	1.0	U
95-47-6	o-Xylene		0.030	0.50	U
100-42-5	Styrene		0.020	0.50	U
75-25-2	Bromoform		0.030	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane		0.050	0.50	U
96-18-4	1,2,3-Trichloropropane		0.090	0.50	U
110-57-6	trans-1,4-Dichloro-2-butene		0.33	2.0	U
106-46-7	1,4-Dichlorobenzene		0.030	0.50	U
95-50-1	1,2-Dichlorobenzene		0.030	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane		0.25	0.50	U
540-59-0	1,2-Dichloroethene (total)		0.030	0.50	U
1330-20-7	Xylenes (total)		0.030	0.50	U

SURROGATE RECOVERY RESULTS	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	5.000	6.344	127	65 - 150	
1,2-Dichloroethane-d4	5.000	6.467	129	59 - 150	
Toluene-d8	5.000	5.250	105	61 - 145	
Bromofluorobenzene	5.000	4.938	99	63 - 143	



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# ANALYSIS DATA SHEET

## SW 8260B

1R-45180

Client: CDM FEDERAL PROGRAMS-CORP. SDG 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Matrix: Water Preparation: SW 5030A/5030B File ID: 1212075-0471.d Sampled: 12/20/12 11:20

Initial/Final: 25mL / 25mL Lab ID: 1212075-04 Received: 12/22/12 11:24

Dilution: 1 pH: 1 Prepared: 12/27/12 18:30

% Moisture: NA Analyzed: 12/28/12 00:54

Batch: 2122704 Sequence: 2L27004 Calibration: 2122807 Instrument: 5972hp71

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
75-71-8	Dichlorodifluoromethane		0.030	0.50	U
74-87-3	Chloromethane	0.83	0.11	0.50	
75-01-4	Vinyl chloride		0.070	0.50	U
74-83-9	Bromomethane		0.11	0.50	U
75-00-3	Chloroethane		0.20	0.50	U
75-69-4	Trichlorofluoromethane		0.060	0.50	U
75-35-4	1,1-Dichloroethene		0.040	0.50	U
67-64-1	Acetone	6.9	0.44	2.5	
74-88-4	Iodomethane		0.030	0.50	U
75-15-0	Carbon disulfide		0.020	0.50	U
75-09-2	Methylene chloride		0.020	0.50	U
107-13-1	Acrylonitrile		0.36	5.0	U
156-60-5	trans-1,2-Dichloroethene		0.050	0.50	U
75-34-3	1,1-Dichloroethane		0.020	0.50	U
108-05-4	Vinyl acetate		0.060	1.0	U
156-59-2	cis-1,2-Dichloroethene		0.030	0.50	U
78-93-3	2-Butanone		0.28	2.5	U
74-97-5	Bromochloromethane		0.040	0.50	U
67-66-3	Chloroform		0.030	0.50	U
71-55-6	1,1,1-Trichloroethane		0.020	0.50	U
56-23-5	Carbon tetrachloride		0.030	0.50	U
107-06-2	1,2-Dichloroethane		0.030	0.50	U
71-43-2	Benzene		0.030	0.50	U
79-01-6	Trichloroethene		0.030	0.50	U
78-87-5	1,2-Dichloropropane		0.12	0.50	U
74-95-3	Dibromomethane		0.030	0.50	U
75-27-4	Bromodichloromethane		0.030	0.50	U
10061-01-5	cis-1,3-Dichloropropene		0.040	0.50	U
108-10-1	4-Methyl-2-pentanone		0.42	2.5	U
108-88-3	Toluene	0.55	0.030	0.50	
10061-02-6	trans-1,3-Dichloropropene		0.050	0.50	U
79-00-5	1,1,2-Trichloroethane		0.040	0.50	U



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## ANALYSIS DATA SHEET

SW 8260B

1R-45180

Client: CDM FEDERAL PROGRAMS CORP. SDG 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAYMatrix: Water Preparation: SW 5030A/5030B File ID: 1212075-0471.d Sampled: 12/20/12 11:20Initial/Final: 25mL / 25mL Lab ID: 1212075-04 Received: 12/22/12 11:24Dilution: 1 pH: 1 Prepared: 12/27/12 18:30% Moisture: NA Analyzed: 12/28/12 00:54Batch: 2122704 Sequence: 2L27004 Calibration: 2122807 Instrument: 5972hp71

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q	
127-18-4	Tetrachloroethene		0.060	0.50	U	
591-78-6	2-Hexanone		0.51	2.5	U	
124-48-1	Dibromochloromethane		0.040	0.50	U	
106-93-4	1,2-Dibromoethane		0.040	0.50	U	
108-90-7	Chlorobenzene		0.020	0.50	U	
630-20-6	1,1,1,2-Tetrachloroethane		0.020	0.50	U	
100-41-4	Ethylbenzene		0.040	0.50	U	
179601-23-1	m,p-Xylene		0.080	1.0	U	
95-47-6	o-Xylene		0.030	0.50	U	
100-42-5	Styrene		0.020	0.50	U	
75-25-2	Bromoform		0.030	0.50	U	
79-34-5	1,1,2,2-Tetrachloroethane		0.050	0.50	U	
96-18-4	1,2,3-Trichloropropane		0.090	0.50	U	
110-57-6	trans-1,4-Dichloro-2-butene		0.33	2.0	U	
106-46-7	1,4-Dichlorobenzene		0.030	0.50	U	
95-50-1	1,2-Dichlorobenzene		0.030	0.50	U	
96-12-8	1,2-Dibromo-3-chloropropane		0.25	0.50	U	
540-59-0	1,2-Dichloroethene (total)		0.030	0.50	U	
1330-20-7	Xylenes (total)		0.030	0.50	U	
SURROGATE RECOVERY RESULTS		ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane		5.000	5.972	119	65 - 150	
1,2-Dichloroethane-d4		5.000	6.537	131	59 - 150	
Toluene-d8		5.000	5.133	103	61 - 145	
Bromofluorobenzene		5.000	5.140	103	63 - 143	



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## ANALYSIS DATA SHEET

SW 8260B

TB-1

Client: CDM FEDERAL PROGRAMS CORP. SDG 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Matrix: Water Preparation: SW 5030A/5030B File ID: 1212075-0371.d Sampled: 12/18/12 00:00

Initial/Final: 25mL / 25mL Lab ID: 1212075-03 Received: 12/21/12 10:37

Dilution: 1 pH: 1 Prepared: 12/27/12 18:30

% Moisture: NA Analyzed: 12/28/12 00:24

Batch: 2122704 Sequence: 2L27004 Calibration: 2122807 Instrument: 5972hp71

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
75-71-8	Dichlorodifluoromethane		0.030	0.50	U
74-87-3	Chloromethane		0.11	0.50	U
75-01-4	Vinyl chloride		0.070	0.50	U
74-83-9	Bromomethane		0.11	0.50	U
75-00-3	Chloroethane		0.20	0.50	U
75-69-4	Trichlorofluoromethane		0.060	0.50	U
75-35-4	1,1-Dichloroethene		0.040	0.50	U
67-64-1	Acetone	3.0	0.44	2.5	
74-88-4	Iodomethane		0.030	0.50	U
75-15-0	Carbon disulfide		0.020	0.50	U
75-09-2	Methylene chloride		0.020	0.50	U
107-13-1	Acrylonitrile		0.36	5.0	U
156-60-5	trans-1,2-Dichloroethene		0.050	0.50	U
75-34-3	1,1-Dichloroethane		0.020	0.50	U
108-05-4	Vinyl acetate		0.060	1.0	U
156-59-2	cis-1,2-Dichloroethene		0.030	0.50	U
78-93-3	2-Butanone		0.28	2.5	U
74-97-5	Bromochloromethane		0.040	0.50	U
67-66-3	Chloroform		0.030	0.50	U
71-55-6	1,1,1-Trichloroethane		0.020	0.50	U
56-23-5	Carbon tetrachloride		0.030	0.50	U
107-06-2	1,2-Dichloroethane		0.030	0.50	U
71-43-2	Benzene		0.030	0.50	U
79-01-6	Trichloroethene		0.030	0.50	U
78-87-5	1,2-Dichloropropane		0.12	0.50	U
74-95-3	Dibromomethane		0.030	0.50	U
75-27-4	Bromodichloromethane		0.030	0.50	U
10061-01-5	cis-1,3-Dichloropropene		0.040	0.50	U
108-10-1	4-Methyl-2-pentanone		0.42	2.5	U
108-88-3	Toluene		0.030	0.50	U
10061-02-6	trans-1,3-Dichloropropene		0.050	0.50	U
79-00-5	1,1,2-Trichloroethane		0.040	0.50	U



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## ANALYSIS DATA SHEET

SW 8260B

TB-1

Client: CDM FEDERAL PROGRAMS CORP. SDG 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAYMatrix: Water Preparation: SW 5030A/5030B File ID: 1212075-0371.d Sampled: 12/18/12 00:00Initial/Final: 25mL / 25mL Lab ID: 1212075-03 Received: 12/21/12 10:37Dilution: 1 pH: 1 Prepared: 12/27/12 18:30% Moisture: NA Analyzed: 12/28/12 00:24Batch: 2122704 Sequence: 2L27004 Calibration: 2122807 Instrument: 5972hp71

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
127-18-4	Tetrachloroethene		0.060	0.50	U
591-78-6	2-Hexanone		0.51	2.5	U
124-48-1	Dibromochloromethane		0.040	0.50	U
106-93-4	1,2-Dibromoethane		0.040	0.50	U
108-90-7	Chlorobenzene		0.020	0.50	U
630-20-6	1,1,1,2-Tetrachloroethane		0.020	0.50	U
100-41-4	Ethylbenzene		0.040	0.50	U
179601-23-1	m,p-Xylene		0.080	1.0	U
95-47-6	o-Xylene		0.030	0.50	U
100-42-5	Styrene		0.020	0.50	U
75-25-2	Bromoform		0.030	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane		0.050	0.50	U
96-18-4	1,2,3-Trichloropropane		0.090	0.50	U
110-57-6	trans-1,4-Dichloro-2-butene		0.33	2.0	U
106-46-7	1,4-Dichlorobenzene		0.030	0.50	U
95-50-1	1,2-Dichlorobenzene		0.030	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane		0.25	0.50	U
540-59-0	1,2-Dichloroethene (total)		0.030	0.50	U
1330-20-7	Xylenes (total)		0.030	0.50	U

SURROGATE RECOVERY RESULTS	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	5.000	6.044	121	65 - 150	
1,2-Dichloroethane-d4	5.000	6.346	127	59 - 150	
Toluene-d8	5.000	5.260	105	61 - 145	
Bromofluorobenzene	5.000	4.883	98	63 - 143	



## ANALYSIS DATA SHEET

SW 8260B

TB-2

Client: CDM FEDERAL PROGRAMS CORP. SDG 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Matrix: Water Preparation: SW 5030A/5030B File ID: 1212075-0671.d Sampled: 12/18/12 00:00

Initial/Final: 25mL / 25mL Lab ID: 1212075-06 Received: 12/22/12 11:24

Dilution: 1 pH: 1 Prepared: 12/27/12 18:30

% Moisture: NA Analyzed: 12/28/12 01:53

Batch: 2122704 Sequence: 2L27004 Calibration: 2122807 Instrument: 5972hp71

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
75-71-8	Dichlorodifluoromethane		0.030	0.50	U
74-87-3	Chloromethane		0.11	0.50	U
75-01-4	Vinyl chloride		0.070	0.50	U
74-83-9	Bromomethane		0.11	0.50	U
75-00-3	Chloroethane		0.20	0.50	U
75-69-4	Trichlorofluoromethane		0.060	0.50	U
75-35-4	1,1-Dichloroethene		0.040	0.50	U
67-64-1	Acetone		0.44	2.5	U
74-88-4	Iodomethane		0.030	0.50	U
75-15-0	Carbon disulfide		0.020	0.50	U
75-09-2	Methylene chloride		0.020	0.50	U
107-13-1	Acrylonitrile		0.36	5.0	U
156-60-5	trans-1,2-Dichloroethene		0.050	0.50	U
75-34-3	1,1-Dichloroethane		0.020	0.50	U
108-05-4	Vinyl acetate		0.060	1.0	U
156-59-2	cis-1,2-Dichloroethene		0.030	0.50	U
78-93-3	2-Butanone		0.28	2.5	U
74-97-5	Bromochloromethane		0.040	0.50	U
67-66-3	Chloroform		0.030	0.50	U
71-55-6	1,1,1-Trichloroethane		0.020	0.50	U
56-23-5	Carbon tetrachloride		0.030	0.50	U
107-06-2	1,2-Dichloroethane		0.030	0.50	U
71-43-2	Benzene		0.030	0.50	U
79-01-6	Trichloroethene		0.030	0.50	U
78-87-5	1,2-Dichloropropane		0.12	0.50	U
74-95-3	Dibromomethane		0.030	0.50	U
75-27-4	Bromodichloromethane		0.030	0.50	U
10061-01-5	cis-1,3-Dichloropropene		0.040	0.50	U
108-10-1	4-Methyl-2-pentanone		0.42	2.5	U
108-88-3	Toluene		0.030	0.50	U
10061-02-6	trans-1,3-Dichloropropene		0.050	0.50	U
79-00-5	1,1,2-Trichloroethane		0.040	0.50	U



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# ANALYSIS DATA SHEET

## SW 8260B

TB-2

Client: CDM FEDERAL PROGRAMS CORP. SDG 1212075 Project: LIBBY ASBESTOS TO-14/6402:DK1.002.SAMPL-14 DAY

Matrix: Water Preparation: SW 5030A/5030B File ID: 1212075-0671.d Sampled: 12/18/12 00:00

Initial/Final: 25mL / 25mL Lab ID: 1212075-06 Received: 12/22/12 11:24

Dilution: 1 pH: 1 Prepared: 12/27/12 18:30

% Moisture: NA Analyzed: 12/28/12 01:53

Batch: 2122704 Sequence: 2L27004 Calibration: 2122807 Instrument: 5972hp71

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q	
127-18-4	Tetrachloroethene		0.060	0.50	U	
591-78-6	2-Hexanone		0.51	2.5	U	
124-48-1	Dibromochloromethane		0.040	0.50	U	
106-93-4	1,2-Dibromoethane		0.040	0.50	U	
108-90-7	Chlorobenzene		0.020	0.50	U	
630-20-6	1,1,1,2-Tetrachloroethane		0.020	0.50	U	
100-41-4	Ethylbenzene		0.040	0.50	U	
179601-23-1	m,p-Xylene		0.080	1.0	U	
95-47-6	o-Xylene		0.030	0.50	U	
100-42-5	Styrene		0.020	0.50	U	
75-25-2	Bromoform		0.030	0.50	U	
79-34-5	1,1,2,2-Tetrachloroethane		0.050	0.50	U	
96-18-4	1,2,3-Trichloropropane		0.090	0.50	U	
110-57-6	trans-1,4-Dichloro-2-butene		0.33	2.0	U	
106-46-7	1,4-Dichlorobenzene		0.030	0.50	U	
95-50-1	1,2-Dichlorobenzene		0.030	0.50	U	
96-12-8	1,2-Dibromo-3-chloropropane		0.25	0.50	U	
540-59-0	1,2-Dichloroethene (total)		0.030	0.50	U	
1330-20-7	Xylenes (total)		0.030	0.50	U	
SURROGATE RECOVERY RESULTS		ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane		5.000	6.541	131	65 - 150	
1,2-Dichloroethane-d4		5.000	6.948	139	59 - 150	
Toluene-d8		5.000	5.277	106	61 - 145	
Bromofluorobenzene		5.000	5.161	103	63 - 143	



# ANALYSIS DATA SHEET

## SW 8260B

VBLKNJ

Client: CDM FEDERAL PROGRAMS CORP. SDG: 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY  
 Matrix: Water Extraction: SW 5030A/5030B File ID: 2122704-BLK1R71.d QC Type: Blank  
 Initial/Final: 25mL / 25mL Lab ID: 2122704-BLK1 Column ID: SPB-624  
 Dilution: 1 pH:  Prepared: 12/27/12 18:30  
 % Moisture: NA Analyzed: 12/27/12 18:30  
 Batch: 2122704 Sequence: 2L27004 Calibration: 2122807 Instrument: 5972hp71

CAS NO.	COMPOUND	CONC.(ug/L)	MDL	RL	Q
75-71-8	Dichlorodifluoromethane		0.030	0.50	U
74-87-3	Chloromethane		0.11	0.50	U
75-01-4	Vinyl chloride		0.070	0.50	U
74-83-9	Bromomethane		0.11	0.50	U
75-00-3	Chloroethane		0.20	0.50	U
75-69-4	Trichlorofluoromethane		0.060	0.50	U
75-35-4	1,1-Dichloroethene		0.040	0.50	U
67-64-1	Acetone		0.44	2.5	U
74-88-4	Iodomethane		0.030	0.50	U
75-15-0	Carbon disulfide		0.020	0.50	U
75-09-2	Methylene chloride		0.020	0.50	U
107-13-1	Acrylonitrile		0.36	5.0	U
156-60-5	trans-1,2-Dichloroethene		0.050	0.50	U
75-34-3	1,1-Dichloroethane		0.020	0.50	U
108-05-4	Vinyl acetate		0.060	1.0	U
156-59-2	cis-1,2-Dichloroethene		0.030	0.50	U
78-93-3	2-Butanone		0.28	2.5	U
74-97-5	Bromochloromethane		0.040	0.50	U
67-66-3	Chloroform		0.030	0.50	U
71-55-6	1,1,1-Trichloroethane		0.020	0.50	U
56-23-5	Carbon tetrachloride		0.030	0.50	U
107-06-2	1,2-Dichloroethane		0.030	0.50	U
71-43-2	Benzene		0.030	0.50	U
79-01-6	Trichloroethene		0.030	0.50	U
78-87-5	1,2-Dichloropropane		0.12	0.50	U
74-95-3	Dibromomethane		0.030	0.50	U
75-27-4	Bromodichloromethane		0.030	0.50	U
10061-01-5	cis-1,3-Dichloropropene		0.040	0.50	U
108-10-1	4-Methyl-2-pentanone		0.42	2.5	U
108-88-3	Toluene		0.030	0.50	U
10061-02-6	trans-1,3-Dichloropropene		0.050	0.50	U



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## ANALYSIS DATA SHEET

SW 8260B

VBLKNJ

Client: CDM FEDERAL PROGRAMS CORP. SDG: 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Matrix: Water Extraction: SW 5030A/5030B File ID: 2122704-BLK1R71.d QC Type: Blank

Initial/Final: 25mL / 25mL Lab ID: 2122704-BLK1 Column ID: SPB-624

Dilution: 1 pH: Prepared: 12/27/12 18:30

% Moisture: NA Analyzed: 12/27/12 18:30

Batch: 2122704 Sequence: 2L27004 Calibration: 2122807 Instrument: 5972hp71

CAS NO.	COMPOUND	CONC.(ug/L)	MDL	RL	Q	
79-00-5	1,1,2-Trichloroethane		0.040	0.50	U	
127-18-4	Tetrachloroethene		0.060	0.50	U	
591-78-6	2-Hexanone		0.51	2.5	U	
124-48-1	Dibromochloromethane		0.040	0.50	U	
106-93-4	1,2-Dibromoethane		0.040	0.50	U	
108-90-7	Chlorobenzene		0.020	0.50	U	
630-20-6	1,1,1,2-Tetrachloroethane		0.020	0.50	U	
100-41-4	Ethylbenzene		0.040	0.50	U	
179601-23-1	m,p-Xylene		0.080	1.0	U	
95-47-6	o-Xylene		0.030	0.50	U	
100-42-5	Styrene		0.020	0.50	U	
75-25-2	Bromoform		0.030	0.50	U	
79-34-5	1,1,2,2-Tetrachloroethane		0.050	0.50	U	
96-18-4	1,2,3-Trichloropropane		0.090	0.50	U	
110-57-6	trans-1,4-Dichloro-2-butene		0.33	2.0	U	
106-46-7	1,4-Dichlorobenzene		0.030	0.50	U	
95-50-1	1,2-Dichlorobenzene		0.030	0.50	U	
96-12-8	1,2-Dibromo-3-chloropropane		0.25	0.50	U	
540-59-0	1,2-Dichloroethene (total)		0.030	0.50	U	
1330-20-7	Xylenes (total)		0.030	0.50	U	
SURROGATE RECOVERY RESULTS		ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane		5.000	5.827	117	65 - 150	
1,2-Dichloroethane-d4		5.000	5.639	113	59 - 150	
Toluene-d8		5.000	5.401	108	61 - 145	
Bromofluorobenzene		5.000	5.082	102	63 - 143	



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# ANALYSIS DATA SHEET

SW 8260B

VLCSNJ

Client: CDM FEDERAL PROGRAMS CORP. SDG: 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Matrix: Water Extraction: SW 5030A/5030B File ID: 2122704-BS171.d QC Type: LCS

Initial/Final: 25mL / 25mL Lab ID: 2122704-BS1 Column ID: SPB-624

Dilution: 1 pH:  Prepared: 12/27/12 18:30

% Moisture: NA Analyzed: 12/27/12 18:59

Batch: 2122704 Sequence: 2L27004 Calibration: 2122807 Instrument: 5972hp71

CAS NO.	COMPOUND	CONC.(ug/L)	MDL	RL	Q
75-71-8	Dichlorodifluoromethane	5.693	0.030	0.50	
74-87-3	Chloromethane	6.044	0.11	0.50	
75-01-4	Vinyl chloride	5.707	0.070	0.50	
74-83-9	Bromomethane	4.075	0.11	0.50	
75-00-3	Chloroethane	5.865	0.20	0.50	
75-69-4	Trichlorofluoromethane	5.364	0.060	0.50	
75-35-4	1,1-Dichloroethene	5.658	0.040	0.50	
67-64-1	Acetone	30.43	0.44	2.5	
74-88-4	Iodomethane	3.527	0.030	0.50	
75-15-0	Carbon disulfide	6.152	0.020	0.50	
75-09-2	Methylene chloride	5.919	0.020	0.50	
107-13-1	Acrylonitrile	53.11	0.36	5.0	
156-60-5	trans-1,2-Dichloroethene	6.012	0.050	0.50	
75-34-3	1,1-Dichloroethane	6.100	0.020	0.50	
108-05-4	Vinyl acetate	10.94	0.060	1.0	
156-59-2	cis-1,2-Dichloroethene	5.404	0.030	0.50	
78-93-3	2-Butanone	25.04	0.28	2.5	
74-97-5	Bromochloromethane	5.262	0.040	0.50	
67-66-3	Chloroform	5.873	0.030	0.50	
71-55-6	1,1,1-Trichloroethane	5.823	0.020	0.50	
56-23-5	Carbon tetrachloride	5.476	0.030	0.50	
107-06-2	1,2-Dichloroethane	5.774	0.030	0.50	
71-43-2	Benzene	5.645	0.030	0.50	
79-01-6	Trichloroethene	5.399	0.030	0.50	
78-87-5	1,2-Dichloropropane	5.596	0.12	0.50	
74-95-3	Dibromomethane	4.857	0.030	0.50	
75-27-4	Bromodichloromethane	5.564	0.030	0.50	
10061-01-5	cis-1,3-Dichloropropene	5.365	0.040	0.50	
108-10-1	4-Methyl-2-pentanone	22.40	0.42	2.5	
108-88-3	Toluene	5.007	0.030	0.50	
10061-02-6	trans-1,3-Dichloropropene	4.820	0.050	0.50	



# ANALYSIS DATA SHEET

## SW 8260B

VLCSNJ

Client: CDM FEDERAL PROGRAMS CORP.      SDG: 1212075      Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Matrix: Water      Extraction: SW 5030A/5030B      File ID: 2122704-BS171.d      QC Type: LCS

Initial/Final: 25mL / 25mL      Lab ID: 2122704-BS1      Column ID: SPB-624

Dilution: 1      pH:      Prepared: 12/27/12 18:30

% Moisture: NA      Analyzed: 12/27/12 18:59

Batch: 2122704      Sequence: 2L27004      Calibration: 2122807      Instrument: 5972hp71

CAS NO.	COMPOUND	CONC.(ug/L)	MDL	RL	Q	
79-00-5	1,1,2-Trichloroethane	4.922	0.040	0.50		
127-18-4	Tetrachloroethene	4.675	0.060	0.50		
591-78-6	2-Hexanone	21.94	0.51	2.5		
124-48-1	Dibromochloromethane	4.537	0.040	0.50		
106-93-4	1,2-Dibromoethane	4.728	0.040	0.50		
108-90-7	Chlorobenzene	5.025	0.020	0.50		
630-20-6	1,1,1,2-Tetrachloroethane	4.861	0.020	0.50		
100-41-4	Ethylbenzene	5.256	0.040	0.50		
179601-23-1	m,p-Xylene	10.39	0.080	1.0		
95-47-6	o-Xylene	5.035	0.030	0.50		
100-42-5	Styrene	4.991	0.020	0.50		
75-25-2	Bromoform	4.381	0.030	0.50		
79-34-5	1,1,2,2-Tetrachloroethane	4.813	0.050	0.50		
96-18-4	1,2,3-Trichloropropane	5.250	0.090	0.50		
110-57-6	trans-1,4-Dichloro-2-butene	19.64	0.33	2.0		
106-46-7	1,4-Dichlorobenzene	5.065	0.030	0.50		
95-50-1	1,2-Dichlorobenzene	4.886	0.030	0.50		
96-12-8	1,2-Dibromo-3-chloropropane	4.881	0.25	0.50		
540-59-0	1,2-Dichloroethene (total)	11.42	0.030	0.50		
1330-20-7	Xylenes (total)	15.43	0.030	0.50		
SURROGATE RECOVERY RESULTS		ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane		5.000	5.588	112	65 - 150	
1,2-Dichloroethane-d4		5.000	5.871	117	59 - 150	
Toluene-d8		5.000	4.988	100	61 - 145	
Bromofluorobenzene		5.000	4.935	99	63 - 143	



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# ANALYSIS DATA SHEET

## SW 8260B

VLCSDNJ

Client: CDM FEDERAL PROGRAMS CORP.      SDG: 1212075      Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Matrix: Water      Extraction: SW 5030A/5030B      File ID: 2122704-BSD1R71.d      QC Type: LCS Dup

Initial/Final: 25mL / 25mL      Lab ID: 2122704-BSD1      Column ID: SPB-624

Dilution: 1      pH:      Prepared: 12/27/12 18:30

% Moisture: NA      Analyzed: 12/27/12 20:39

Batch: 2122704      Sequence: 2L27004      Calibration: 2122807      Instrument: 5972hp71

CAS NO.	COMPOUND	CONC.(ug/L)	MDL	RL	Q
75-71-8	Dichlorodifluoromethane	6.064	0.030	0.50	
74-87-3	Chloromethane	6.194	0.11	0.50	
75-01-4	Vinyl chloride	6.441	0.070	0.50	
74-83-9	Bromomethane	4.867	0.11	0.50	
75-00-3	Chloroethane	5.868	0.20	0.50	
75-69-4	Trichlorofluoromethane	5.636	0.060	0.50	
75-35-4	1,1-Dichloroethene	5.730	0.040	0.50	
67-64-1	Acetone	29.33	0.44	2.5	
74-88-4	Iodomethane	3.943	0.030	0.50	
75-15-0	Carbon disulfide	6.032	0.020	0.50	
75-09-2	Methylene chloride	6.164	0.020	0.50	
107-13-1	Acrylonitrile	56.42	0.36	5.0	
156-60-5	trans-1,2-Dichloroethene	5.918	0.050	0.50	
75-34-3	1,1-Dichloroethane	6.217	0.020	0.50	
108-05-4	Vinyl acetate	11.36	0.060	1.0	
156-59-2	cis-1,2-Dichloroethene	5.641	0.030	0.50	
78-93-3	2-Butanone	26.68	0.28	2.5	
74-97-5	Bromochloromethane	5.705	0.040	0.50	
67-66-3	Chloroform	6.158	0.030	0.50	
71-55-6	1,1,1-Trichloroethane	5.977	0.020	0.50	
56-23-5	Carbon tetrachloride	5.538	0.030	0.50	
107-06-2	1,2-Dichloroethane	6.111	0.030	0.50	
71-43-2	Benzene	5.835	0.030	0.50	
79-01-6	Trichloroethene	5.419	0.030	0.50	
78-87-5	1,2-Dichloropropane	5.637	0.12	0.50	
74-95-3	Dibromomethane	5.650	0.030	0.50	
75-27-4	Bromodichloromethane	5.857	0.030	0.50	
10061-01-5	cis-1,3-Dichloropropene	5.804	0.040	0.50	
108-10-1	4-Methyl-2-pentanone	23.74	0.42	2.5	
108-88-3	Toluene	5.075	0.030	0.50	
10061-02-6	trans-1,3-Dichloropropene	5.388	0.050	0.50	



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## ANALYSIS DATA SHEET

SW 8260B

VLCSDNJ

Client: CDM FEDERAL PROGRAMS CORP. SDG: 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAYMatrix: Water Extraction: SW 5030A/5030B File ID: 2122704-BSD1R71.d QC Type: LCS DupInitial/Final: 25mL / 25mL Lab ID: 2122704-BSD1 Column ID: SPB-624Dilution: 1 pH:  Prepared: 12/27/12 18:30% Moisture: NA Analyzed: 12/27/12 20:39Batch: 2122704 Sequence: 2L27004 Calibration: 2122807 Instrument: 5972hp71

CAS NO.	COMPOUND	CONC.(ug/L)	MDL	RL	Q	
79-00-5	1,1,2-Trichloroethane	5.178	0.040	0.50		
127-18-4	Tetrachloroethene	4.991	0.060	0.50		
591-78-6	2-Hexanone	24.07	0.51	2.5		
124-48-1	Dibromochloromethane	4.774	0.040	0.50		
106-93-4	1,2-Dibromoethane	4.778	0.040	0.50		
108-90-7	Chlorobenzene	5.248	0.020	0.50		
630-20-6	1,1,1,2-Tetrachloroethane	5.097	0.020	0.50		
100-41-4	Ethylbenzene	5.445	0.040	0.50		
179601-23-1	m,p-Xylene	10.67	0.080	1.0		
95-47-6	o-Xylene	5.403	0.030	0.50		
100-42-5	Styrene	5.244	0.020	0.50		
75-25-2	Bromoform	4.338	0.030	0.50		
79-34-5	1,1,2,2-Tetrachloroethane	4.983	0.050	0.50		
96-18-4	1,2,3-Trichloropropane	5.825	0.090	0.50		
110-57-6	trans-1,4-Dichloro-2-butene	20.70	0.33	2.0		
106-46-7	1,4-Dichlorobenzene	5.056	0.030	0.50		
95-50-1	1,2-Dichlorobenzene	4.844	0.030	0.50		
96-12-8	1,2-Dibromo-3-chloropropane	4.703	0.25	0.50		
540-59-0	1,2-Dichloroethene (total)	11.56	0.030	0.50		
1330-20-7	Xylenes (total)	16.07	0.030	0.50		
SURROGATE RECOVERY RESULTS		ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane		5.000	5.688	114	65 - 150	
1,2-Dichloroethane-d4		5.000	5.935	119	59 - 150	
Toluene-d8		5.000	4.898	98	61 - 145	
Bromofluorobenzene		5.000	4.622	92	63 - 143	



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# ANALYSIS DATA SHEET

SW 8260B

1R-44817MS

Client: CDM FEDERAL PROGRAMS CORP.      SDG: 1212075      Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Matrix: Water      Extraction: SW 5030A/5030B      File ID: 2122704-MS171.d      QC Type: Matrix Spike

Initial/Final: 25mL / 25mL      Lab ID: 2122704-MS1      Column ID: SPB-624

Dilution: 1      pH: 1      Prepared: 12/27/12 18:30

% Moisture: NA      Analyzed: 12/27/12 22:55

Batch: 2122704      Sequence: 2L27004      Calibration: 2122807      Instrument: 5972hp71

CAS NO.	COMPOUND	CONC.(ug/L)	MDL	RL	Q
75-71-8	Dichlorodifluoromethane	6.044	0.030	0.50	
74-87-3	Chloromethane	6.547	0.11	0.50	
75-01-4	Vinyl chloride	6.255	0.070	0.50	
74-83-9	Bromomethane	5.001	0.11	0.50	
75-00-3	Chloroethane	6.161	0.20	0.50	
75-69-4	Trichlorofluoromethane	5.517	0.060	0.50	
75-35-4	1,1-Dichloroethene	5.445	0.040	0.50	
67-64-1	Acetone	28.76	0.44	2.5	
74-88-4	Iodomethane	3.366	0.030	0.50	
75-15-0	Carbon disulfide	6.258	0.020	0.50	
75-09-2	Methylene chloride	6.426	0.020	0.50	
107-13-1	Acrylonitrile	53.90	0.36	5.0	
156-60-5	trans-1,2-Dichloroethene	5.837	0.050	0.50	
75-34-3	1,1-Dichloroethane	6.345	0.020	0.50	
108-05-4	Vinyl acetate	11.21	0.060	1.0	
156-59-2	cis-1,2-Dichloroethene	5.690	0.030	0.50	
78-93-3	2-Butanone	25.75	0.28	2.5	
74-97-5	Bromochloromethane	5.645	0.040	0.50	
67-66-3	Chloroform	6.004	0.030	0.50	
71-55-6	1,1,1-Trichloroethane	5.834	0.020	0.50	
56-23-5	Carbon tetrachloride	5.454	0.030	0.50	
107-06-2	1,2-Dichloroethane	6.088	0.030	0.50	
71-43-2	Benzene	5.873	0.030	0.50	
79-01-6	Trichloroethene	5.306	0.030	0.50	
78-87-5	1,2-Dichloropropane	6.032	0.12	0.50	
74-95-3	Dibromomethane	5.020	0.030	0.50	
75-27-4	Bromodichloromethane	5.792	0.030	0.50	
10061-01-5	cis-1,3-Dichloropropene	5.506	0.040	0.50	
108-10-1	4-Methyl-2-pentanone	23.32	0.42	2.5	
108-88-3	Toluene	5.163	0.030	0.50	
10061-02-6	trans-1,3-Dichloropropene	5.152	0.050	0.50	



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# ANALYSIS DATA SHEET

SW 8260B

1R-44817MS

Client: CDM FEDERAL PROGRAMS CORP.      SDG: 1212075      Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Matrix: Water      Extraction: SW 5030A/5030B      File ID: 2122704-MS171.d      QC Type: Matrix Spike

Initial/Final: 25mL / 25mL      Lab ID: 2122704-MS1      Column ID: SPB-624

Dilution: 1      pH: 1      Prepared: 12/27/12 18:30

% Moisture: NA      Analyzed: 12/27/12 22:55

Batch: 2122704      Sequence: 2L27004      Calibration: 2122807      Instrument: 5972hp71

CAS NO.	COMPOUND	CONC.(ug/L)	MDL	RL	Q	
79-00-5	1,1,2-Trichloroethane	5.212	0.040	0.50		
127-18-4	Tetrachloroethene	4.976	0.060	0.50		
591-78-6	2-Hexanone	22.36	0.51	2.5		
124-48-1	Dibromochloromethane	4.828	0.040	0.50		
106-93-4	1,2-Dibromoethane	4.511	0.040	0.50		
108-90-7	Chlorobenzene	5.256	0.020	0.50		
630-20-6	1,1,1,2-Tetrachloroethane	5.162	0.020	0.50		
100-41-4	Ethylbenzene	5.433	0.040	0.50		
179601-23-1	m,p-Xylene	10.43	0.080	1.0		
95-47-6	o-Xylene	5.258	0.030	0.50		
100-42-5	Styrene	5.292	0.020	0.50		
75-25-2	Bromoform	4.502	0.030	0.50		
79-34-5	1,1,2,2-Tetrachloroethane	5.123	0.050	0.50		
96-18-4	1,2,3-Trichloropropane	5.224	0.090	0.50		
110-57-6	trans-1,4-Dichloro-2-butene	20.13	0.33	2.0		
106-46-7	1,4-Dichlorobenzene	5.187	0.030	0.50		
95-50-1	1,2-Dichlorobenzene	5.044	0.030	0.50		
96-12-8	1,2-Dibromo-3-chloropropane	4.750	0.25	0.50		
540-59-0	1,2-Dichloroethene (total)	11.53	0.030	0.50		
1330-20-7	Xylenes (total)	15.69	0.030	0.50		
SURROGATE RECOVERY RESULTS		ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane		5.000	5.673	113	65 - 150	
1,2-Dichloroethane-d4		5.000	6.247	125	59 - 150	
Toluene-d8		5.000	4.976	100	61 - 145	
Bromofluorobenzene		5.000	4.837	97	63 - 143	



# ANALYSIS DATA SHEET

SW 8260B

1R-44817MSD

Client: CDM FEDERAL PROGRAMS CORP.      SDG: 1212075      Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Matrix: Water      Extraction: SW 5030A/5030B      File ID: 2122704-MSD171.d      QC Type: Matrix Spike Dup

Initial/Final: 25mL / 25mL      Lab ID: 2122704-MSD1      Column ID: SPB-624

Dilution: 1      pH: 1      Prepared: 12/27/12 18:30

% Moisture: NA      Analyzed: 12/27/12 23:25

Batch: 2122704      Sequence: 2L27004      Calibration: 2122807      Instrument: 5972hp71

CAS NO.	COMPOUND	CONC.(ug/L)	MDL	RL	Q
75-71-8	Dichlorodifluoromethane	6.364	0.030	0.50	
74-87-3	Chloromethane	6.855	0.11	0.50	
75-01-4	Vinyl chloride	6.639	0.070	0.50	
74-83-9	Bromomethane	5.033	0.11	0.50	
75-00-3	Chloroethane	6.141	0.20	0.50	
75-69-4	Trichlorofluoromethane	5.852	0.060	0.50	
75-35-4	1,1-Dichloroethene	5.739	0.040	0.50	
67-64-1	Acetone	30.14	0.44	2.5	
74-88-4	Iodomethane	4.020	0.030	0.50	
75-15-0	Carbon disulfide	6.476	0.020	0.50	
75-09-2	Methylene chloride	6.850	0.020	0.50	
107-13-1	Acrylonitrile	53.00	0.36	5.0	
156-60-5	trans-1,2-Dichloroethene	6.046	0.050	0.50	
75-34-3	1,1-Dichloroethane	6.315	0.020	0.50	
108-05-4	Vinyl acetate	10.69	0.060	1.0	
156-59-2	cis-1,2-Dichloroethene	6.029	0.030	0.50	
78-93-3	2-Butanone	25.54	0.28	2.5	
74-97-5	Bromochloromethane	5.408	0.040	0.50	
67-66-3	Chloroform	6.247	0.030	0.50	
71-55-6	1,1,1-Trichloroethane	6.097	0.020	0.50	
56-23-5	Carbon tetrachloride	5.565	0.030	0.50	
107-06-2	1,2-Dichloroethane	6.084	0.030	0.50	
71-43-2	Benzene	6.051	0.030	0.50	
79-01-6	Trichloroethene	5.627	0.030	0.50	
78-87-5	1,2-Dichloropropane	5.542	0.12	0.50	
74-95-3	Dibromomethane	5.418	0.030	0.50	
75-27-4	Bromodichloromethane	5.970	0.030	0.50	
10061-01-5	cis-1,3-Dichloropropene	5.434	0.040	0.50	
108-10-1	4-Methyl-2-pentanone	20.73	0.42	2.5	
108-88-3	Toluene	5.025	0.030	0.50	
10061-02-6	trans-1,3-Dichloropropene	4.963	0.050	0.50	



# ANALYSIS DATA SHEET

SW 8260B

1R-44817MSD

Client: CDM FEDERAL PROGRAMS CORP.      SDG: 1212075      Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Matrix: Water      Extraction: SW 5030A/5030B      File ID: 2122704-MSD171.d      QC Type: Matrix Spike Dup

Initial/Final: 25mL / 25mL      Lab ID: 2122704-MSD1      Column ID: SPB-624

Dilution: 1      pH: 1      Prepared: 12/27/12 18:30

% Moisture: NA      Analyzed: 12/27/12 23:25

Batch: 2122704      Sequence: 2L27004      Calibration: 2122807      Instrument: 5972hp71

CAS NO.	COMPOUND	CONC.(ug/L)	MDL	RL	Q	
79-00-5	1,1,2-Trichloroethane	4.934	0.040	0.50		
127-18-4	Tetrachloroethene	4.693	0.060	0.50		
591-78-6	2-Hexanone	20.27	0.51	2.5		
124-48-1	Dibromochloromethane	4.490	0.040	0.50		
106-93-4	1,2-Dibromoethane	4.492	0.040	0.50		
108-90-7	Chlorobenzene	5.045	0.020	0.50		
630-20-6	1,1,1,2-Tetrachloroethane	4.929	0.020	0.50		
100-41-4	Ethylbenzene	5.220	0.040	0.50		
179601-23-1	m,p-Xylene	10.30	0.080	1.0		
95-47-6	o-Xylene	5.095	0.030	0.50		
100-42-5	Styrene	5.050	0.020	0.50		
75-25-2	Bromoform	3.948	0.030	0.50		
79-34-5	1,1,2,2-Tetrachloroethane	4.739	0.050	0.50		
96-18-4	1,2,3-Trichloropropane	4.954	0.090	0.50		
110-57-6	trans-1,4-Dichloro-2-butene	18.22	0.33	2.0		
106-46-7	1,4-Dichlorobenzene	5.140	0.030	0.50		
95-50-1	1,2-Dichlorobenzene	4.857	0.030	0.50		
96-12-8	1,2-Dibromo-3-chloropropane	4.502	0.25	0.50		
540-59-0	1,2-Dichloroethene (total)	12.07	0.030	0.50		
1330-20-7	Xylenes (total)	15.39	0.030	0.50		
SURROGATE RECOVERY RESULTS		ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane		5.000	5.815	116	65 - 150	
1,2-Dichloroethane-d4		5.000	5.949	119	59 - 150	
Toluene-d8		5.000	4.827	97	61 - 145	
Bromofluorobenzene		5.000	4.844	97	63 - 143	







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12/31/2012

TRACY DODGE

CDM FEDERAL PROGRAMS CORP.

60 Port Blvd., Suite 201

Libby, MT 59923

Subject:

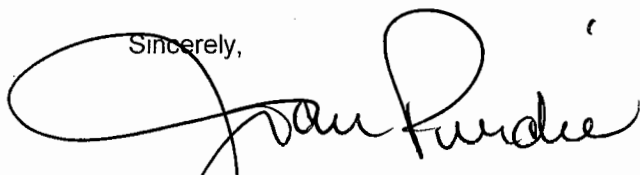
Report of Data - Project: LIBBY ASBESTOS TO-14/6402.DK1.002.S      WorkOrder: 1212075

Attn.: TRACY DODGE

Enclosed are the results of analytical work performed in accordance with the referenced account number. This report covers sample(s) appearing on the listing.

Thank you for selecting CompuChem for your sample analysis. If you should have questions or require additional analytical services, please contact your representative at 1-800-833-5097

Sincerely,



CompuChem  
a division of Liberty Analytical Corporation

Attachment

TOTAL NUMBER  
OF PAGES \_\_\_\_\_

**CompuChem, a division of Liberty Analytical****Client:** CDM FEDERAL PROGRAMS CORP.**Work:** 1212075**Project:** LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DA\**Sdg:** 1212075

Lab ID	Client ID	Matrix	Date Sampled	Date Received
1212075-01	1R-44817	Water	12/18/2012 13:43	12/21/2012 10:37
1212075-02	1R-44818	Water	12/19/2012 12:59	12/21/2012 10:37
1212075-03	TB-1	Water	12/18/2012 00:00	12/21/2012 10:37
1212075-04	1R-45180	Water	12/20/2012 11:20	12/22/2012 11:24
1212075-05	1R-44819	Water	12/20/2012 11:35	12/22/2012 11:24
1212075-06	TB-2	Water	12/18/2012 00:00	12/22/2012 11:24

## ANALYSES DATA PACKAGE COVER PAGE

**Client:** CDM FEDERAL PROGRAMS CORP.

**Project:** LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

**Laboratory:** COMPUCHEM

**SDG:** 1212075

---

**Client Sample Id:**

1R-44817  
1R-44817  
1R-44818  
1R-44818  
1R-45180  
1R-45180  
1R-44819  
1R-44819

**Lab Sample Id:**

1212075-01  
1212075-01  
1212075-02  
1212075-02  
1212075-04  
1212075-04  
1212075-05  
1212075-05

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the Electronic Data Deliverable has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature:

*Susan W Bass*

Name:

Susan Bass

Date:

12/31/2012

Title:

Senior Chemist



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Liberty Analytical Corp.

## **SDG NARRATIVE**

**SDG # 1212075**

**Client: CDM FEDERAL PROGRAMS CORP.**

**Project: LIBBY ASBESTOS TO-14/6402.DK1002.SAMPL-14 DAY**

The 4 liquid samples were received intact, at 0.3 to 1.5°C, with proper documentations, in sealed shipping containers, on December 21 and 22, 2012. The samples were scheduled for the requested analyses of the Wet Chemistry fraction. The samples were analyzed, in accordance with current EPA methods, for the analytes requested as per the COC, with the exceptions and/or additions requested by the client. The calculation for alkalinity carbonate and bicarbonate are located behind the narrative.

### **SAMPLE IDs:**

The cover page contained in this package lists the client ID's and the associated CompuChem numbers which are part of this SDG.

### **INSTRUMENTAL QUALITY CONTROL:**

All calibration verification solutions (ICV & CCV), blanks (ICB, & CCB), associated with this data were confirmed to be within allowable limits.

### **SAMPLE PREPARATION QUALITY CONTROL:**

The sample preparation procedure verifications (LCS & Blank) were found to be within acceptable ranges. The field samples were prepared and analyzed within the contract specified holding times.

### **MATRIX RELATED QUALITY CONTROL:**

1R-44817 (1212075-01) was requested to be used to prepare the matrix spike and matrix spike duplicate. The associated QC was found to be inside control limits.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Furthermore, I certify that the tests used in this report meet all requirements of the NELAC standards unless otherwise stated in the SDG narrative or QA notice. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Susan W. Bass

Senior Chemist

December 31, 2012

## WET CHEMISTRY DATA REPORTING QUALIFIERS

On the appropriate reporting form, under the column labeled "Q" for qualifier, each result is flagged with the specific data reporting qualifiers listed below, as appropriate. The qualifiers used are:

- U : This flag indicates the compound was analyzed for, not detected and is reported as less than the Method Detection Limit (MDL) (or as defined by the client). The Reporting Limit (RL), or Limit of Quantitation (LOQ), and the MDL will be adjusted to reflect any dilution or concentration of the sample and, for soils, the percent moisture.
- J : This flag indicates the reported result is an estimated value. The flag is used when an analyte is detected and the result is less than the adjusted RL/LOQ but equal to or greater than the MDL.
- Q : This flag denotes that one or more quality control criteria have failed (e.g., LCS recovery, Continuing Calibration Verification, or CCV) and reanalyses can't be performed. The Q flag is applied to all specific analyte(s) in all samples associated with the failed quality control criteria.
- B : This flag is used when the analyte is found in the associated method or calibration blank as well as in the sample. It indicates probable blank contamination and warns the data user to take appropriate action. The combination of flags BU or UB is not an allowable policy. Blank contaminants are flagged B only when they are detected in the sample.
- D: This flag is applied to an analyte when the reported result is based on a dilution.
- X/Y/Z : Other specific flags may be required to properly define the results. If used, the flags will be fully described in the SDG Narrative. The laboratory-defined flags are limited to X, Y, and Z.

**The extensions: D, S, and SD are added to the end of the Client ID and represent the following:**

**D – Matrix Duplicate**  
**S – Matrix Spike**  
**SD – Matrix Spike Duplicate**

Revision 0 (03-15-2011)



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# CHAIN OF CUSTODY

501 Madison Ave.  
Cary, NC 27513

Phone: 919-379-4100 Fax 919-379-4040

26584

Page 1 of 1

Courier Fed-Ex - 7943 6036 1831  
Airbill No. 7943 6038 7989  
Sampling Complete? Y or N 7943 6036 5246

Client/Reporting Information				Project Information				Requested Analysis (include method and bottle type)												Matrices					
Company Name <u>CDM Smith</u>				Project Name <u>Libby, MT Asbestos Project</u>				<u>Disolved Metals + Mercury</u> <u>6020A/6010C/7470A (DL Poly)</u> <u>Cyanide</u> <u>900C/901A (U) 250ml Poly</u> <u>Volatile Organic Compounds</u> <u>8260B (3) 40ml VOA vials</u> <u>Chloride (Cl) / Sulfate (SO4)</u> <u>1C 300.0 (A) 125ml Poly</u> <u>Nitrate - Nitrite</u> <u>353.2 (U) 450ml Poly</u> <u>Chemical Oxygen Demand (COD)</u> <u>(Sub Contract) (U) 250ml Poly</u> <u>VPH MADEP</u> <u>(2) 40ml VOA vials</u> <u>EPH MADEP</u> <u>(2) 1 L Amber Glass</u>												<u>GW</u> Ground water <u>WW</u> - Waste water <u>SW</u> - Surface water <u>SO</u> - Soil/Sediment <u>TB</u> Trip Blank <u>RI</u> - Rinsate <u>WP</u> - Wipe <u>O</u> - Other					
Address <u>60 Port Blvd Ste 201</u>				Sampling Location <u>Libby, MT</u>																<u>806</u> metals <u>COD</u> <u>Nitrate/Nitrite</u>					
City <u>Libby</u> State <u>MT</u> Zip <u>59923</u>				Turnaround time <u>14 Days</u>																					
Project Contact <u>Phyllis Haugen</u>				Batch QC or Project Specific? If Specific, which Sample ID? <u>IR-44817</u> <u>MS/MSD</u>																					
Phone # <u>406-293-8595 X33</u>				Are aqueous samples field filtered for metals? Y or N <u>Y</u>																					
Sampler's Name <u>Kris Beauchemin</u>				Are high concentrations expected? Y or <u>N</u> If yes, which ID(s)?																					
CompuChem No (Lab Use)	Field ID	Collection		Matrix	# of bottles	Number of Preserved Bottles										Dissolved Metals + Mercury	Cyanide	Volatile Organic Compounds	Chloride (Cl) / Sulfate (SO4)	Nitrate - Nitrite	Chemical Oxygen Demand (COD)	VPH MADEP	EPH MADEP	pH / Sample Info (Lab Use)	
		Date	Time			HCl	NaOH	HNO3	H2SO4	MEOH	Other	NONE													
1212075-01	IR-44817	12/19/12	13:43	GW	36	15	3	3	0	0	3	1	1	1	1	1	1	1	1	1	1	1212077-01	276	276	276
103	TB-1	NA	NA	TB	3	3																			
102	IR-44818	12/19/12	12:59	GW	12	5	1	1	4	0	1	1	1	1	1	1	1	1	1	1	1	1212077-02	276	276	276

Lab Use Only				Comments			
Sample Unpacked By: <u>[Signature]</u>				Cyanide samples checked for sulfide & chlorine? Y or NA <u>Y</u>			
Sample Order Entry By: <u>[Signature]</u>				625 & Phenol samples checked for chlorine? Y or NA <u>Y</u>			
Samples Received in Good Condition? Y or N <u>Y</u>				608 samples checked for pH between 5.0-9.0? Y or NA <u>Y</u>			
If no, explain:							
Sample Custody							
Relinquished by: <u>Phyllis Haugen - CDM Smith</u>		Date/Time: <u>12/19/12 13:00</u>		Received by: <u>[Signature]</u>		Date/Time: <u>12-21-12 1031</u>	
Relinquished by:		Date/Time:		Received by:		Date/Time:	
Subcontract? Y or N If yes, where? <u>MADEP VPH &amp; EPH + COD TO ENCO/CARY</u>				Custody Seal(s) intact? Y or N <u>Y</u>			
Samples stored 60 days after date report mailed at no extra charge.				On Ice? Y or N <u>Y</u>			
				Cooler Temp: <u>0.8, 0.9, 1.5 °C</u>			

White & Yellow copy to lab • Pink copy for customer  
IRGUN:SN0015



Phone: 919-379-4100 · Fax 919-379-4040

26584

Page 1 of 1

Sampling Complete? Y or (N) 7943 6220 5240

[illegible]

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Page 1 of 1

Courier **Fed-Ex - 7943 6036 1831**  
Airbill No. **7943 6038 7989**  
Sampling Complete? Y or (N) **7943 6120 5246**

[illegible]

White & Yellow copy to lab • Pink copy for customer





Phone: 919-379-4100 Fax 919-379-4040

26584

Page 1 of 1

Sampling Complete? Y or **(N)** 7943 6220 5246

[illegible]

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Phone: 919-379-4100 Fax 919-379-4040

Page 1 of 1

Sampling Complete? Y or N

[illegible]

Samples stored 60 days after date report mailed at no extra charge.

White & Yellow copy to lab • Pink copy for customer



## Cary, NC 27513

Phone: 919-379-4100 Fax 919-379-4040

**26583**

Page 1 of 1

Courier Ed-Ex-7943 7340 6690

Airbill No. 7943 7394 8532

Sampling Complete? Y or N

[illegible]

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26583

Page 4 of 4

10

Courier Fed-Ex - 7943 7340 6690

Airbill No. 7943 7394 8532

Sampling Complete? Y or N

[illegible]

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**WORK ORDER**

Printed: 12/22/2012 12:52:57PM

**1212075**

**COMPUCHEM**

<b>Client:</b> CDM FEDERAL PROGRAMS CORP.	<b>Project Manager:</b> Cathy Dover
<b>Project:</b> LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DA	<b>Project Number:</b> LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 I
<b>SDG:</b> 1212075 <b>CASE:</b>	<b>Status:</b> Received

**Report To:**

CDM FEDERAL PROGRAMS CORP.  
TRACY DODGE  
60 Port Blvd., Suite 201  
Libby, MT 59923  
Phone: (406) 293-8595  
Fax: -

**Invoice To:**

CDM FEDERAL PROGRAMS CORP.  
SUBCONTRACT MANAGER  
14420 ALBEMARLE POINT PLACE, SUITE 210  
CHANTILLY, VA 20151  
Phone :-  
Fax: -

Date Due: 01/04/2013 00:00 (13 day TAT)

Received By: Cathy Dover

Date Received: 12/22/2012 11:24

Logged In By: Cathy Dover

Date Logged In: 12/21/2012 12:52

J & B Flags?: NO	TICS?: NO	Deliverable: Style 3	EDD : 68) LATA EXCEL
Metals ND to? RL/CRQL	Spike Level: FULL Spike		
USE 1212075-01 FOR QC*VOC 25ML=LIBBY.SUB*6020A MTL=Sb,As,Be,Cd,Pb,Se,Tl*6010C MTL=Ba,Cr,Co,Cu,Fe,Ni,Ag,V & Zn*HG 7470A*NO2/NO3 353.2 IN H2SO4 PRES.CONTAINER*IC300=CHL/SO4*CN 9010C/9012B*GENERATE THE CUSTOM NO MDL REPORT			

Analysis	Due	TAT	Expires	Received	Comments
<b>1212075-01 1R-44817 [Water] Sampled 12/18/2012 13:43 Eastern</b>					
				USE FOR QC	
NITRATE-NITRITE-N 353.2	01/04/2013 16:00	13	02/04/2013 13:43	12/21/2012 10:37	
6010C DISS. METALS VARIABLE Invoice	01/04/2013 16:00	13	06/16/2013 13:43	12/21/2012 10:37	
VOA-8260B 25ML	01/04/2013 16:00	13	01/01/2013 13:43	12/21/2012 10:37	SubList = VOA - LIBBY (12-31-11)
6020A ICP MS (UPDATE IV)	01/04/2013 16:00	13	06/16/2013 13:43	12/21/2012 10:37	
7470A 7471B Mercury	01/04/2013 16:00	13	01/15/2013 13:43	12/21/2012 10:37	
9010C 9012B CYANIDE	01/04/2013 16:00	13	01/01/2013 13:43	12/21/2012 10:37	
DISS. 6020A ICP MS Invoice	01/04/2013 16:00	13	06/16/2013 13:43	12/21/2012 10:37	
6010C METALS	01/04/2013 16:00	13	06/16/2013 13:43	12/21/2012 10:37	
IC 300 Anions	01/04/2013 16:00	13	01/15/2013 13:43	12/21/2012 10:37	
<b>1212075-02 1R-44818 [Water] Sampled 12/19/2012 12:59 Eastern</b>					
6010C METALS	01/04/2013 16:00	13	06/17/2013 12:59	12/21/2012 10:37	
6020A ICP MS (UPDATE IV)	01/04/2013 16:00	13	06/17/2013 12:59	12/21/2012 10:37	
7470A 7471B Mercury	01/04/2013 16:00	13	01/16/2013 12:59	12/21/2012 10:37	
9010C 9012B CYANIDE	01/04/2013 16:00	13	01/02/2013 12:59	12/21/2012 10:37	
DISS. 6020A ICP MS Invoice	01/04/2013 16:00	13	06/17/2013 12:59	12/21/2012 10:37	
IC 300 Anions	01/04/2013 16:00	13	01/16/2013 12:59	12/21/2012 10:37	
NITRATE-NITRITE-N 353.2	01/04/2013 16:00	13	02/05/2013 12:59	12/21/2012 10:37	
6010C DISS. METALS VARIABLE Invoice	01/04/2013 16:00	13	06/17/2013 12:59	12/21/2012 10:37	
VOA-8260B 25ML	01/04/2013 16:00	13	01/02/2013 12:59	12/21/2012 10:37	SubList = VOA - LIBBY (12-31-11)

## WORK ORDER

Printed: 12/22/2012 12:52:57PM

1212075

## COMPUCHEM

<b>Client:</b> CDM FEDERAL PROGRAMS CORP.	<b>Project Manager:</b> Cathy Dover
<b>Project:</b> LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DA	<b>Project Number:</b> LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 I
<b>SDG:</b> 1212075	<b>Case:</b> Batched

Analysis	Due	TAT	Expires	Comments
<b>1212075-03 TB-1 [Water] Sampled 12/18/2012 00:00 Eastern</b>				
				TRIP BLK
VOA-8260B 25ML	01/04/2013 16:00	13	01/01/2013 00:00	12/21/2012 10:37 SubList = VOA - LIBBY (12-31-11)
<b>1212075-04 1R-45180 [Water] Sampled 12/20/2012 11:20 Eastern</b>				
6010C DISS. METALS VARIABLE Invoice	01/04/2013 16:00	13	06/18/2013 11:20	12/22/2012 11:24
6010C METALS	01/04/2013 16:00	13	06/18/2013 11:20	12/22/2012 11:24
6020A ICP MS (UPDATE IV)	01/04/2013 16:00	13	06/18/2013 11:20	12/22/2012 11:24
7470A 7471B Mercury	01/04/2013 16:00	13	01/17/2013 11:20	12/22/2012 11:24
9010C 9012B CYANIDE	01/04/2013 16:00	13	01/03/2013 11:20	12/22/2012 11:24
DISS. 6020A ICP MS Invoice	01/04/2013 16:00	13	06/18/2013 11:20	12/22/2012 11:24
IC 300 Anions	01/04/2013 16:00	13	01/17/2013 11:20	12/22/2012 11:24
NITRATE-NITRITE-N 353.2	01/04/2013 16:00	13	02/06/2013 11:20	12/22/2012 11:24
VOA-8260B 25ML	01/04/2013 16:00	13	01/03/2013 11:20	12/22/2012 11:24 SubList = VOA - LIBBY (12-31-11)
<b>1212075-05 1R-44819 [Water] Sampled 12/20/2012 11:35 Eastern</b>				
6010C DISS. METALS VARIABLE Invoice	01/04/2013 16:00	13	06/18/2013 11:35	12/22/2012 11:24
VOA-8260B 25ML	01/04/2013 16:00	13	01/03/2013 11:35	12/22/2012 11:24 SubList = VOA - LIBBY (12-31-11)
6020A ICP MS (UPDATE IV)	01/04/2013 16:00	13	06/18/2013 11:35	12/22/2012 11:24
7470A 7471B Mercury	01/04/2013 16:00	13	01/17/2013 11:35	12/22/2012 11:24
9010C 9012B CYANIDE	01/04/2013 16:00	13	01/03/2013 11:35	12/22/2012 11:24
DISS. 6020A ICP MS Invoice	01/04/2013 16:00	13	06/18/2013 11:35	12/22/2012 11:24
IC 300 Anions	01/04/2013 16:00	13	01/17/2013 11:35	12/22/2012 11:24
NITRATE-NITRITE-N 353.2	01/04/2013 16:00	13	02/06/2013 11:35	12/22/2012 11:24
6010C METALS	01/04/2013 16:00	13	06/18/2013 11:35	12/22/2012 11:24
<b>1212075-06 TB-2 [Water] Sampled 12/18/2012 00:00 Eastern</b>				
				TRIP BLK
VOA-8260B 25ML	01/04/2013 16:00	13	01/01/2013 00:00	12/22/2012 11:24 SubList = VOA - LIBBY (12-31-11)

## Extractions Custody Sheet

Batch: 2122803 Status: Batched

Analysis: NITRATE-NITRITE-N 353.2

Lab Id	Client_Id	Received	Container	Extraction	Preservative	Matrix	Due Date	Cust Date
1212075-01 S	1R-44817	12/21/12	3e_250mL Plastic, cool, H2SC	NO PREP	pH<2 H2SO4, Cool 4'	Water	1/4/2013 4	
1212075-02 G	1R-44818	12/21/12	3e_250mL Plastic, cool, H2SC	NO PREP	pH<2 H2SO4, Cool 4'	Water	1/4/2013 4	
1212075-04 G	1R-45180	12/22/12	3e_250mL Plastic, cool, H2SC	NO PREP	pH<2 H2SO4, Cool 4'	Water	1/4/2013 4	
1212075-05 G	1R-44819	12/22/12	3e_250mL Plastic, cool, H2SC	NO PREP	pH<2 H2SO4, Cool 4'	Water	1/4/2013 4	

Coolan

Relinquished By

12/28/12 11:35

Date/Time

12/28/12 1340

Date/Time

WR

Received By

Coolan

Received By

12/28/12 1135

Date/Time

12/28/12 1340

Date/Time

Relinquished By

Date/Time

Received By

Date/Time

Relinquished By

Date/Time

Received By

Date/Time

## Extractions Custody Sheet

Batch: 2122702 Status: Batched

Analysis: IC 300 Anions

Lab Id	Client_Id	Received	Container	Extraction	Preservative	Matrix	Due Date	Cust Date
1212075-01 P	1R-44817	12/21/12	3b_125mL Plastic, cool	NO PREP	Cool 4°C	Water	1/4/2013 4	
1212075-02 F	1R-44818	12/21/12	3b_125mL Plastic, cool	NO PREP	Cool 4°C	Water	1/4/2013 4	
1212075-04 F	1R-45180	12/22/12	3b_125mL Plastic, cool	NO PREP	Cool 4°C	Water	1/4/2013 4	
1212075-05 F	1R-44819	12/22/12	3b_125mL Plastic, cool	NO PREP	Cool 4°C	Water	1/4/2013 4	
1212076-01 D	MP-02	12/21/12	3d_250mL Plastic, cool	NO PREP	Cool 4°C	Water	1/7/2013 4	
1212076-02 D	MP-01	12/21/12	3d_250mL Plastic, cool	NO PREP	Cool 4°C	Water	1/7/2013 4	
1212076-03 D	MP-01FD	12/21/12	3d_250mL Plastic, cool	NO PREP	Cool 4°C	Water	1/7/2013 4	
1212076-04 L	IP-01	12/21/12	3d_250mL Plastic, cool	NO PREP	Cool 4°C	Water	1/7/2013 4	
1212076-05 D	MP-03	12/21/12	3d_250mL Plastic, cool	NO PREP	Cool 4°C	Water	1/7/2013 4	

Coolman  
 Relinquished By  
Wah  
 Relinquished By  
Coolman  
 Relinquished By  
Wah  
 Relinquished By

12/27/12 11:30  
 Date/Time  
12/27/12 1715  
 Date/Time  
12/28/12 0915  
 Date/Time  
12/28/12 1540  
 Date/Time

Wah  
 Received By  
Coolman  
 Received By  
Wah  
 Received By  
Coolman  
 Received By

12/27/12 1130  
 Date/Time  
12/27/12 1715  
 Date/Time  
12/28/12 0915  
 Date/Time  
12/28/12 1540  
 Date/Time



## METHOD DETECTION AND REPORTING LIMITS

Laboratory: COMPUCHEM

SDG: 1212075

Client: CDM FEDERAL PROGRAMS CORP.

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Matrix: WATER

Instrument: LACHATC2

Analyte	MDL	RL	Units	Method
Nitrate/Nitrite as N	0.0406	0.05	mg/L	EPA 353.2



*Compu Chem*

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## METHOD DETECTION AND REPORTING LIMITS

Laboratory: COMPUCHEM

SDG: 1212075

Client: CDM FEDERAL PROGRAMS CORP.

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Matrix: WATER

Instrument: Omnion Prime

Analyte	MDL	RL	Units	Method
Chloride	0.14	1.00	mg/L	EPA 300.0
Sulfate as SO <sub>4</sub>	0.0602	1.00	mg/L	EPA 300.0



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## ANALYSIS DATA SHEET

1R-44817

Client: CDM FEDERAL PROGRAMS CORP. SDG: 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAYLab ID: 1212075-01 % Solid: Matrix: Water Sampled: 12/18/12 Received: 12/21/12

CAS NO.	Analyte	Conc. (mg/L)	MDL	RL	D.F.	Q	Method	Sequence	Analyzed
16887-00-6	Chloride		0.140	1.00	1		EPA 300.0	2L28003	12/27/12 16:04
14808-79-8	Sulfate as SO <sub>4</sub>	5.41	0.0602	1.00	1		EPA 300.0	2L28003	12/27/12 16:04
NO <sub>2</sub> NO <sub>3</sub>	Nitrate/Nitrite as N		0.0406	0.0500	1	U	EPA 353.2	2L28016	12/28/12 12:39

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## ANALYSIS DATA SHEET

1R-44818

Client: CDM FEDERAL PROGRAMS CORP. SDG: 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAYLab ID: 1212075-02 % Solid: Matrix: Water Sampled: 12/19/12 Received: 12/21/12

CAS NO.	Analyte	Conc. (mg/L)	MDL	RL	D.F.	Q	Method	Sequence	Analyzed
16887-00-6	Chloride		0.140	1.00	1		EPA 300.0	2L28003	12/27/12 16:52
14808-79-8	Sulfate as SO <sub>4</sub>		0.0602	1.00	1		EPA 300.0	2L28003	12/27/12 16:52
NO2NO3	Nitrate/Nitrite as N		0.0406	0.0500	1	U	EPA 353.2	2L28016	12/28/12 12:43

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## ANALYSIS DATA SHEET

1R-45180

Client: CDM FEDERAL PROGRAMS CORP. SDG: 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY  
Lab ID: 1212075-04 % Solid: Matrix: Water Sampled: 12/20/12 Received: 12/22/12

CAS NO.	Analyte	Conc. (mg/L)	MDL	RL	D.F.	Q	Method	Sequence	Analyzed
16887-00-6	Chloride		0.140	1.00	1		EPA 300.0	2L28003	12/27/12 17:08
14808-79-8	Sulfate as SO <sub>4</sub>	6.09	0.0602	1.00	1		EPA 300.0	2L28003	12/27/12 17:08
NO <sub>2</sub> NO <sub>3</sub>	Nitrate/Nitrite as N		0.0406	0.0500	1		EPA 353.2	2L28016	12/28/12 12:44

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## ANALYSIS DATA SHEET

1R-44819

Client: CDM FEDERAL PROGRAMS CORP. SDG: 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAYLab ID: 1212075-05 % Solid: Matrix: Water Sampled: 12/20/12 Received: 12/22/12

CAS NO.	Analyte	Conc. (mg/L)	MDL	RL	D.F.	Q	Method	Sequence	Analyzed
16887-00-6	Chloride		0.140	1.00	1		EPA 300.0	2L28003	12/27/12 17:24
14808-79-8	Sulfate as SO <sub>4</sub>	6.06	0.0602	1.00	1		EPA 300.0	2L28003	12/27/12 17:24
NO2NO3	Nitrate/Nitrite as N		0.0406	0.0500	1	U	EPA 353.2	2L28016	12/28/12 12:45

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## ANALYSIS DATA SHEET

MB

Client: CDM FEDERAL PROGRAMS CORP. SDG: 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAYLab ID: 2122702-BLK1Matrix: Water

CAS NO.	Analyte	Conc. (mg/L)	MDL	RL	D.F.	Q	Method	Sequence	Analyzed
16887-00-6	Chloride		0.140	1.00	1	J	EPA 300.0	2L28003	12/27/12 15:31
14808-79-8	Sulfate as SO4		0.0602	1.00	1	J	EPA 300.0	2L28003	12/27/12 15:31

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## ANALYSIS DATA SHEET

LCS

Client: CDM FEDERAL PROGRAMS CORP. SDG: 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAYLab ID: 2122702-BS1Matrix: Water

CAS NO.	Analyte	Conc. (mg/L)	MDL	RL	D.F.	Q	Method	Sequence	Analyzed
16887-00-6	Chloride	29.6	0.140	1.00	1		EPA 300.0	2L28003	12/27/12 15:48
14808-79-8	Sulfate as SO <sub>4</sub>	59.8	0.0602	1.00	1		EPA 300.0	2L28003	12/27/12 15:48

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## ANALYSIS DATA SHEET

1R-44817MS

Client: CDM FEDERAL PROGRAMS CORP. SDG: 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAYLab ID: 2122702-MS1Matrix: Water

CAS NO.	Analyte	Conc. (mg/L)	MDL	RL	D.F.	Q	Method	Sequence	Analyzed
16887-00-6	Chloride	30.8	0.140	1.00	1		EPA 300.0	2L28003	12/27/12 16:20
14808-79-8	Sulfate as SO4	65.5	0.0602	1.00	1		EPA 300.0	2L28003	12/27/12 16:20

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# ANALYSIS DATA SHEET

1R-44817MSD

Client: CDM FEDERAL PROGRAMS CORP. SDG: 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY  
 Lab ID: 2122702-MSD1 Matrix: Water

CAS NO.	Analyte	Conc. (mg/L)	MDL	RL	D.F.	Q	Method	Sequence	Analyzed
16887-00-6	Chloride	30.3	0.140	1.00	1		EPA 300.0	2L28003	12/27/12 16:36
14808-79-8	Sulfate as SO4	65.2	0.0602	1.00	1		EPA 300.0	2L28003	12/27/12 16:36



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## ANALYSIS DATA SHEET

MB

Client: CDM FEDERAL PROGRAMS CORP. SDG: 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAYLab ID: 2122803-BLK1Matrix: Water

CAS NO.	Analyte	Conc. (mg/L)	MDL	RL	D.F.	Q	Method	Sequence	Analyzed
NO2NO3	Nitrate/Nitrite as N		0.0406	0.0500	1	U	EPA 353.2	2L28016	12/28/12 12:37

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## ANALYSIS DATA SHEET

LCS

Client: CDM FEDERAL PROGRAMS CORP. SDG: 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAYLab ID: 2122803-BS1Matrix: Water

CAS NO.	Analyte	Conc. (mg/L)	MDL	RL	D.F.	Q	Method	Sequence	Analyzed
NO2NO3	Nitrate/Nitrite as N	1.58	0.0406	0.0500	1		EPA 353.2	2L28016	12/28/12 12:38

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# ANALYSIS DATA SHEET

1R-44817MS

Client: CDM FEDERAL PROGRAMS CORP. SDG: 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab ID: 2122803-MS1

Matrix: Water

CAS NO.	Analyte	Conc. (mg/L)	MDL	RL	D.F.	Q	Method	Sequence	Analyzed
NO2NO3	Nitrate/Nitrite as N	1.04	0.0406	0.0500	1		EPA 353.2	2L28016	12/28/12 12:40



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## ANALYSIS DATA SHEET

1R-44817MSD

Client: CDM FEDERAL PROGRAMS CORP. SDG: 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAYLab ID: 2122803-MSD1Matrix: Water

CAS NO.	Analyte	Conc. (mg/L)	MDL	RL	D.F.	Q	Method	Sequence	Analyzed
NO2NO3	Nitrate/Nitrite as N	1.08	0.0406	0.0500	1		EPA 353.2	2L28016	12/28/12 12:42

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## PREPARATION BATCH SUMMARY

EPA 300.0

Client: CDM FEDERAL PROGRAMS CORP.

SDG: 1212075

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Batch: 2122702

Matrix: Water

Preparation: NO PREP

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL/WT (mL)	FINAL VOL/WT (mL)
1R-44817	1212075-01	12/27/12 12:34	10.0	10.0
1R-44818	1212075-02	12/27/12 12:34	10.0	10.0
1R-45180	1212075-04	12/27/12 12:34	10.0	10.0
1R-44819	1212075-05	12/27/12 12:34	10.0	10.0
MB	2122702-BLK1	12/27/12 12:34	10.0	10.0
LCS	2122702-BS1	12/27/12 12:34	10.0	10.0
1R-44817MS	2122702-MS1	12/27/12 12:34	10.0	10.0
1R-44817MSD	2122702-MSD1	12/27/12 12:34	10.0	10.0



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## PREPARATION BATCH SUMMARY

EPA 353.2

Client: CDM FEDERAL PROGRAMS CORP.      SDG: 1212075      Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Batch: 2122803      Matrix: Water      Preparation: NO PREP

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL/WT (mL)	FINAL VOL/WT (mL)
1R-44817	1212075-01	12/28/12 12:24	1.00	1.00
1R-44818	1212075-02	12/28/12 12:24	1.00	1.00
1R-45180	1212075-04	12/28/12 12:24	1.00	1.00
1R-44819	1212075-05	12/28/12 12:24	1.00	1.00
MB	2122803-BLK1	12/28/12 12:24	1.00	1.00
LCS	2122803-BS1	12/28/12 12:24	1.00	1.00
1R-44817MS	2122803-MS1	12/28/12 12:24	1.00	1.00
1R-44817MSD	2122803-MSD1	12/28/12 12:24	1.00	1.00



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# MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

1R-44817MS

EPA 300.0

Client: CDM FEDERAL PROGRAMS CORP.

SDG: 1212075

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab ID: 2122702-MS1

% Solid: NA

Matrix: Water

Lab Source ID: 1212075-01

Source Sample: 1R-44817

ANALYTE	SPIKE ADDED (mg/L)	SAMPLE CONCENTRATION (mg/L)	MS CONCENTRATION (mg/L)	MS % REC.	Q	QC LIMITS REC.
Chloride	30.00	0.588 J	30.8	101		90 - 110
Sulfate as SO4	60.00	5.41	65.5	100		90 - 110

ANALYTE	SPIKE ADDED (mg/L)	MSD CONCENTRATION (mg/L)	MSD % REC. #	% RPD	Q	QC LIMITS	
						RPD	REC.
Chloride	30.00	30.3	99	2		20	90 - 110
Sulfate as SO4	60.00	65.2	100	0.5		20	90 - 110



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# MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

1R-44817MS

EPA 353.2

Client: CDM FEDERAL PROGRAMS CORP. SDG: 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab ID: 2122803-MS1 % Solid: NA Matrix: Water Lab Source ID: 1212075-01 Source Sample: 1R-44817

ANALYTE	SPIKE ADDED (mg/L)	SAMPLE CONCENTRATION (mg/L)	MS CONCENTRATION (mg/L)	MS % REC.	Q	QC LIMITS REC.
Nitrate/Nitrite as N	1.000	0.0500 U	1.04	104		90 - 110

ANALYTE	SPIKE ADDED (mg/L)	MSD CONCENTRATION (mg/L)	MSD % REC. #	% RPD	Q	QC LIMITS	
						RPD	REC.
Nitrate/Nitrite as N	1.000	1.08	108	4.06		20	90 - 110



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# LCS / LCS DUPLICATE RECOVERY

EPA 300.0

Client: CDM FEDERAL PROGRAMS CORP.     SDG: 1212075     Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab ID: 2122702-BS1     Matrix: Water     Client ID: LCS     Batch: 2122702

ANALYTE	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC.	Q	QC LIMITS REC.
Chloride	30.00	29.6	99		90 - 110
Sulfate as SO4	60.00	59.8	100		90 - 110



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# LCS / LCS DUPLICATE RECOVERY

EPA 353.2

Client: CDM FEDERAL PROGRAMS CORP.      SDG: 1212075      Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab ID: 2122803-BS1      Matrix: Water      Client ID: LCS      Batch: 2122803

ANALYTE	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC.	Q	QC LIMITS REC.
Nitrate/Nitrite as N	1.500	1.58	105		90 - 110



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## BLANKS

EPA 300.0

Client: CDM FEDERAL PROGRAMS CORP.

SDG: 1212075

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Sequence: 2L28003

Instrument ID: Omnion Prime

Client ID	Lab Sample ID	Analyte	Found	MDL	RL	Units	Q	Method
ICB	2L28003-ICB1	Chloride	0.147	0.140	1.00	mg/L	J	EPA 300.0
ICB	2L28003-ICB1	Sulfate as SO4	0.0580	0.0602	1.00	mg/L	U	EPA 300.0
CCB	2L28003-CCB1	Chloride	0.141	0.140	1.00	mg/L	J	EPA 300.0
CCB	2L28003-CCB1	Sulfate as SO4	0.0589	0.0602	1.00	mg/L	U	EPA 300.0
MB	2122702-BLK1	Chloride		0.140	1.00	mg/L	U	EPA 300.0
MB	2122702-BLK1	Sulfate as SO4		0.0602	1.00	mg/L	U	EPA 300.0
CCB	2L28003-CCB2	Chloride	0.141	0.140	1.00	mg/L	J	EPA 300.0
CCB	2L28003-CCB2	Sulfate as SO4	0.0607	0.0602	1.00	mg/L	J	EPA 300.0



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## BLANKS

EPA 353.2

Client: CDM FEDERAL PROGRAMS CORP.

SDG: 1212075

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Sequence: 2L28016

Instrument ID: LACHATC2

Client ID	Lab Sample ID	Analyte	Found	MDL	RL	Units	Q	Method
ICB	2L28016-ICB1	Nitrate/Nitrite :	-0.0388	0.0406	0.0500	mg/L	U	EPA 353.2
CCB	2L28016-CCB1	Nitrate/Nitrite :	-0.0451	0.0406	0.0500	mg/L	J	EPA 353.2
MB	2122803-BLK1	Nitrate/Nitrite :		0.0406	0.0500	mg/L	U	EPA 353.2
CCB	2L28016-CCB2	Nitrate/Nitrite :	-0.0384	0.0406	0.0500	mg/L	U	EPA 353.2



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## Appendix C

Lincoln County Landfill  
Groundwater well monitoring  
Weather 25°F Sunny.

Log Book #16316

11

Event 12-18-12

Activity Biannual Groundwater

sampling at Lincoln County Landfill. All activities performed IAW Lincoln County Class IV Asbestos Landfill operations plan Feb 2008. Rev 2.

CDM Sop 1-6, CDM SOP 4.5.

0853 K. Beaulain & <sup>KRB 12-18-12</sup> A. V. S. Wilson (Both CDM Smith)

On-site, 0913 CDM-mw-07 & CDM-mw-08 have been opened to equilibrate. 0943 Gauged the wells, Decanned Probe before & After use.

Well ID	DTW	DTB	DTB
MW-7	219.93	<del>271</del> <sup>KRB</sup> <del>12-18-12</del>	271
MW-8	226.92	<del>271</del>	240

Set up on MW-7. Equipment has been calibrated YSI PH 7.0, 4.0, 10.0. Cond 1.413. <sup>ms/cm</sup> ORP 240 mv. DO

100%. Hach Turb meter calibrated by Pine Env. to 20, 100, +800 NTU.

1100 started to purge MW-7. As water entered flow through cell it became evident that the flow through cell was leaking air. Cell was missing a gasket. 1115 off-site. 1238 on-site.

Replaced gasket, started to purge. Flow < 1 L/min

Reference to water sampling log for more detail.

Reference FSDS # W-100184.

Collected sample & MS/MSD @ 1428

Decanned equipment. Cleaned up site closed wells. 1445 off-site. 1530 Relinquished samples to CDM Smith sample coordination for analysis.

KRB 12-18-12



Lincoln County Landfill Logbook 10/3/0  
 12-19-12. <sup>Biannual</sup> Groundwater sampling event at the  
 Lincoln County Landfill. All activities performed  
 IAW Lincoln County Class III Asbestos  
 Landfill operations plan Feb 2008 Revision 2  
 CDM Smith SOP 1-6, <sup>SOP</sup> 4.5. 19°F P. Cloudy.  
 0903 K. Beaudoin & S. Wilson (Both CDM Smith)  
 on-site 0920 opened wells to equilibrate.

well ID | DTW 0950 Gauged wells.

MW-7 | 220.09

MW-8 | 227.04

Probe disconnected with a/conox before & after  
 each use.

1000 set up on MW-8. Disconnected Pump before  
 & after each use. Started purging water. After purging  
 ~ 1/2 gal Pump stopped working. Removed  
 pump from the well & set aside. Disconnected the  
 second Grundfos Pump & <sup>192B pump-12</sup> installed it & placed in  
 well. Pump would not bring water to the  
 surface. 1125 off site. 1158 on-site with additional  
 tubing. Attempted to lower pump in  
 the well. Pump only went down ~ 5'  
 more. Attempted to purge water. Pump  
 would not purge water. Stopped purge  
 1/2 Removed Pump from the well.


~~12-19-12~~

Lincoln County Landfill Logbook 10/3/0

12-19-12. Biannual Groundwater sampling Event at  
 Lincoln County Landfill. 22°F Mostly Cloudy.

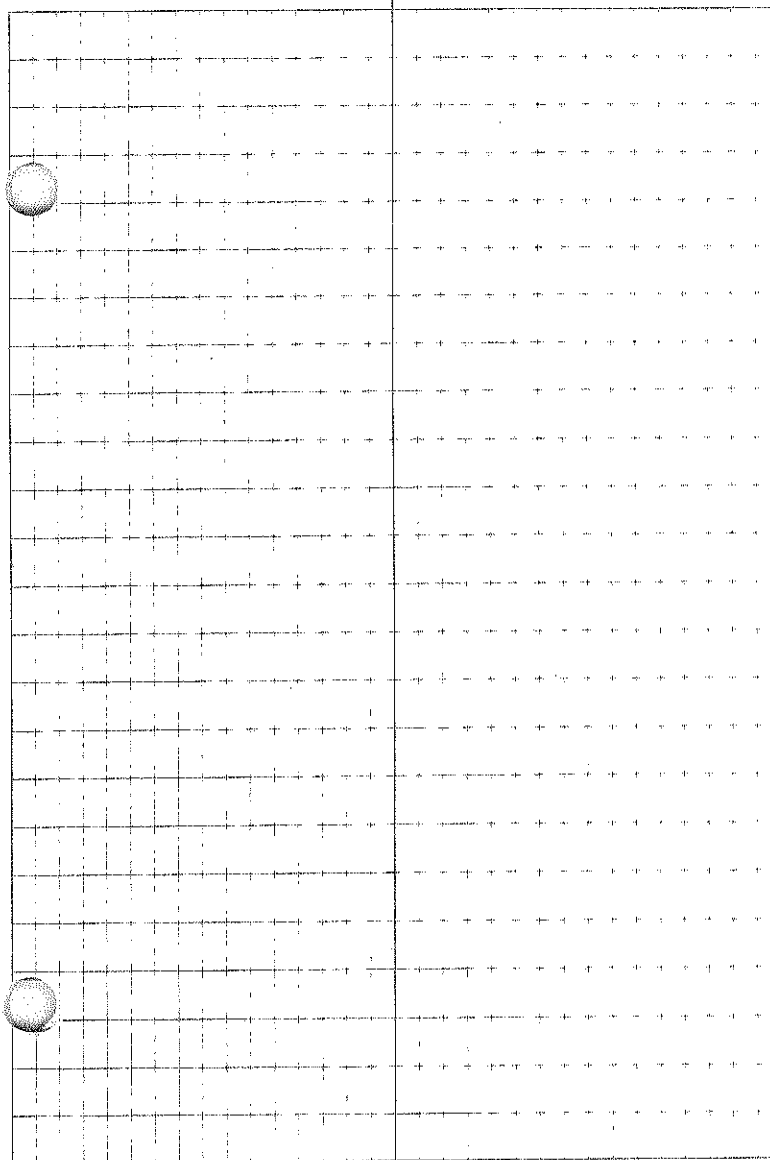
All Activities performed IAW Lincoln County  
 Landfill operations plan Feb 2008 Rev. 2.  
 CDM Smith SOP 1-6, <sup>SOP</sup> 4.5. K. Beaudoin & S. Wilson  
 1255 collected the Field Blank. Reference  
 FSDS # 100291.

The team measured the tubing. We have  
 ~ 240' of tubing & tubing should be  
 in the water column. Disconnected pumps. Used  
 Arg/Aclonox to disconnect tubing as it's placed  
 in the well. Started to purge water. Filled  
 ~ 1/2 Flow through cell then pump stopped  
 working. Removed Pump from well. Disconnected  
 & attempted <sup>disconnect</sup> set aside. Pump has a 3 sec  
 overload fault. Disconnected & sent the second  
 pump down the well. No water being  
 pumped. Removed pump from well. 1405 K.  
 Beaudoin fell into a sink hole off the back of  
 the well. 1410 Attempted to collect sample  
 again. Placed pump in well. Grundfos wires broke  
 when installing pump. Lost control while lowering  
 pump. Trouble shot the wires. No water.  
 Pulled pump disconnected equipment. 1530 off-site  
 1545 Reinstated samples to CDM Smith sample  
 coordination for analysis. <sup>2/2</sup> 12-19-12

Lincoln County Landfill Log Book # 101316  
 12-20-12. Biannual Groundwater sampling event  
 at Lincoln County Landfill. All activities performed  
 in accordance with Lincoln County class IV <sup>Asbestos</sup> Landfill operations  
 Plan Feb 2008 Rev 2 con smith sept-6  
 Temp 4.5 26°F overcast mod snowfall  
 0800 K. Beaudoin con smith calibrated the VSI 556  
 PH: 4.0, 7.0, 10.0. Cond: 1.413 mcm. ORP: 240 mv  
 & DO: 100%. 0958 on-site K. Beaudoin & S. Wilson <sup>con smith</sup>  
 & S. Felton con smith. Set up on mw-8.  
 Disconnected equipment. Gauged mw-8.  
 DTW 226.96. Installed pump & started  
 purging the well. Pump is working. 1025 started  
 to collect parameters. Refer to the water  
 sampling log for details. Reference FSDS#  
 W-100004. 1145 sample & dup collected.  
 cleaned up the site. secured well. 1154 off  
 site. The sink hole on mw-8 should be repaired.  
 Sink hole is located on the back of the concrete  
 well. Prod. side <sup>tree</sup> ↑ ↑ ↑ Hole is ~ 3-4'. Surface  
 water may be  impacting groundwater.  
 1230 Relinquishes samples to con smith  
 sample coordination for analysis.

1/1

KB 12-20-12



# WATER SAMPLING LOG

Project/No. 90637.6421.002.0029 R10u4

Page 1 of 2

Site Location Lincoln County Landfill

Site/Well No. CDMMW-07

Coded/  
Replicate No. \_\_\_\_\_  
Time Sampling  
Began 1343

Date 12-18-12  
Time Sampling  
Completed 1428

Weather 25°F Mostly Sunny

## EVACUATION DATA

Description of Measuring Point (MP) Top of PVC

Height of MP Above/Below Land Surface 15" MP Elevation 2422.10

Total Sounded Depth of Well Below MP 271.70 219.93 <sup>NRB 12-18-12</sup> Water-Level Elevation 2202.17

Depth to Water Below MP 219.93 Diameter of Casing 4"

Water Column in Well 51.77 Gallons Pumped/Bailed  
Prior to Sampling ~5

Gallons per Foot 0.65

Gallons in Well 33.65 Sampling Pump Intake Setting  
(feet below land surface) 2255'

Evacuation Method Low flow via Grundfos Pump

## FINAL FIELD PARAMETERS/SAMPLING DATA

Color None | Odor None | Appearance Clear | Temperature 12.24 °F (°C)

Other (specific ion; OVA; HNU; etc.) NA

Cond. 0.312 mS/cm | pH 7.87 | D.O. 0.97 mg/L | ORP -83.5 mV | Turb. 5.24 NTU

Sampling Method and Material Grundfos Pump/Low flow

Constituents Sampled

Container Description  
From Lab X or CDM \_\_\_\_\_

Preservative

See Attached Table

Remarks \_\_\_\_\_

Sampling Personnel K. Beaudon (com-smith), & S. Wilson (com-smith)

## WELL CASING DIAMETERS AND VOLUMES

1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47

# FIELD PARAMETER LOG

Site Location Lincoln County Landfill

Page 2 of 2

Site/Well No. CPM-MW-07

[illegible]

# WATER SAMPLING LOG

Project/No. 90637.6421.002.0029R10u4

Page 1 of 2

Site Location Lincoln county Landfill

Site/Well No. CDM-MW-08

Coded/  
Replicate No. \_\_\_\_\_

Date 12-20-12

Weather 26°F overcast mod/Heavy snow

Time Sampling  
Began 1120

Time Sampling  
Completed 1145

## EVACUATION DATA

Description of Measuring Point (MP) Top of PVC

Height of MP Above/Below Land Surface 15"

MP Elevation 2414.63'

Total Sounded Depth of Well Below MP 240'

Water-Level Elevation 2187.67'

Depth to Water Below MP 226.96'

Diameter of Casing 4"

Water Column in Well 13.04'

Gallons Pumped/Bailed  
Prior to Sampling ~10

Gallons per Foot 0.65  
8.48 ~~8.48~~ 122012

Gallons in Well 8.48

Sampling Pump Intake Setting  
(feet below land surface) 2235

Evacuation Method Low flow via Grundfos Pump

## FINAL FIELD PARAMETERS/SAMPLING DATA

Color NONE | Odor NONE | Appearance clear | Temperature 16.92 °F/C

Other (specific ion; OVA; HNU; etc.) NA

Cond. 0.412 mS/cm | pH 7.69 | D.O. 3.73 mg/L | ORP -27.1 mV | Turb. 9.83 NTU

Sampling Method and Material Grundfos pump Lowflow

Constituents Sampled

Container Description  
From Lab X or CDM \_\_\_\_\_

Preservative

see Attached Table

Remarks \_\_\_\_\_

Sampling Personnel K. Beaudoin - CDM Smith  
S. Wilson CDM Smith

## WELL CASING DIAMETERS AND VOLUMES

1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47

# FIELD PARAMETER LOG

Site Location Lincoln County Landfill

Page 2 of 2

Site/Well No. CDM-mw-08

Time	Volume Removed (gal)	Water Level (ft)	Turbidity (NTU)	Clarity/Color	Temp (°C)	pH	Cond. (mS/cm)	D.O. (mg/L)	ORP (mV)	Remarks
1028	0.25	226.92	42.5	clear	7.33	7.46	0.320	9.87	3.0	<0.5 $\mu$ m
1033	0.5	226.92	70.0	clear	8.29	7.52	0.330	6.24	-14.2	
1038	2.5	226.94	59.0	Tan	15.30	7.58	0.398	4.04	-31.8	
1043	3	226.94	47.3	Tan	15.77	7.62	0.402	3.99	-32.1	
1048	4.5	226.96	38.0	Tan	15.07	7.65	0.394	4.00	-29.5	
1053	5	226.96	30.2	Tan/clear	14.54	7.66	0.388	4.11	-27.8	
1058	5.5	226.96	25.2	clear	15.2	7.66	0.397	3.97	-26.2	
1103	6	226.96	19.7	clear	16.63	7.67	0.410	3.70	-27.0	
1108	7	226.96	17.8	clear	17.50	7.68	0.418	3.62	-28.3	
1113	8	226.96	13.5	clear	17.31	7.69	0.416	3.65	-27.4	
1118	10	226.96	9.83	clear	16.92	7.69	0.412	3.73	-27.1	
1120			collected sample							

KR  
12-20-12

## Field Sample Data Sheet

Address

Lincoln County Landfill

Date

12-18-12

Property ID: AD-000196 Logbook # 101310 Pgs 11 Sampler(s) K. Beaudoin, J. Swilson

Data Item	1	2	3
Location ID	SP-113801		
Is this a new Location	Yes <input checked="" type="radio"/> No Revised (If No, "Z" through location section)	Yes No Revised (If No, "Z" through location section)	Yes No Revised (If No, "Z" through location section)
Location Type			
Location Description			
Location Area (ft <sup>2</sup> )			
Location Comment	KB 12-18-12		
Location Comment 2			
Sample ID	1R-44817		
Sample Time	1343		
Sample ABS	<input checked="" type="radio"/> N Y	N Y	N Y
Sample Venue	Indoor <input checked="" type="radio"/> Outdoor NA	Indoor Outdoor NA	Indoor Outdoor NA
Sample PrePostClear	<input checked="" type="radio"/> NA Pre Post Clear: 1 <sup>st</sup> 2 <sup>nd</sup> 3 <sup>rd</sup> 4 <sup>th</sup> 5 <sup>th</sup> 6 <sup>th</sup> 7 <sup>th</sup>	NA Pre Post Clear: 1 <sup>st</sup> 2 <sup>nd</sup> 3 <sup>rd</sup> 4 <sup>th</sup> 5 <sup>th</sup> 6 <sup>th</sup> 7 <sup>th</sup>	NA Pre Post Clear: 1 <sup>st</sup> 2 <sup>nd</sup> 3 <sup>rd</sup> 4 <sup>th</sup> 5 <sup>th</sup> 6 <sup>th</sup> 7 <sup>th</sup>
Sample Type	<input checked="" type="radio"/> FS FD FB Other	FS FD FB Other	FS FD FB Other
Sample Parent ID			
Composite	Y <input checked="" type="radio"/> N	Y N	Y N
Sample Aliquots	0 <input checked="" type="radio"/> Other NA	0 Other	0 Other
Sample Location Description	CDM-MW-07		
Sample Field Comments	MS/MSD		

Event ID

LC L020108

Libby Water Sample & Location  
Field Sample Data Sheet

FSDS # W - 100291

Address Lincoln County LandfillDate 12-19-12perty ID: AD-000196 Logbook # 101310 Pgs 12-13 Sampler(s)\*\* K. Beaudoin, S. Wilson

Data Item	1	2	3
* Location ID	AD-00096		
* Is this a new Location	Yes <input checked="" type="radio"/> No Revised (If No, "Z" through location section)	Yes <input type="radio"/> No Revised (If No, "Z" through location section)	Yes <input type="radio"/> No Revised (If No, "Z" through location section)
* Location Type			
* Location Description			
Location Area (ft <sup>2</sup> )			
Location Comment	RB 12-19-12		
Location Comment 2			
* Sample ID	1R- 44818	1R- 44819	1R- 45180
* Sample Time	1259		
* Sample ABS	<input checked="" type="radio"/> N Y	N Y	N Y
* Sample Venue	Indoor <del>Outdoor</del> NA	Indoor Outdoor NA	Indoor Outdoor NA
* Sample PrePostClear	<del>NA</del> Pre Post Clear: 1 <sup>st</sup> 2 <sup>nd</sup> 3 <sup>rd</sup> 4 <sup>th</sup> 5 <sup>th</sup> 6 <sup>th</sup> 7 <sup>th</sup>	NA Pre Post Clear: 1 <sup>st</sup> 2 <sup>nd</sup> 3 <sup>rd</sup> 4 <sup>th</sup> 5 <sup>th</sup> 6 <sup>th</sup> 7 <sup>th</sup>	NA Pre Post Clear: 1 <sup>st</sup> 2 <sup>nd</sup> 3 <sup>rd</sup> 4 <sup>th</sup> 5 <sup>th</sup> 6 <sup>th</sup> 7 <sup>th</sup>
* Sample Type	<del>FS</del> FD <input checked="" type="radio"/> FB Other	FS FD FB Other	FS FD FB Other
Sample Parent ID			12-19-12
* Composite	Y <input checked="" type="radio"/> N	Y N	Y N
* Sample Aliquots	0 <input checked="" type="radio"/> Other NA	0 Other	0 Other
Sample Location Description	Field Blank		
Sample Field Comments			

V 120120

\*Required Field

\*\*List company after Sampler(s) if not "CDM Smith"

For Field Team Completion:

Completed by: RB

QC by: [Signature]

For Data Entry:

Entered by:

QC by:



Charge #  
Event ID

LC020108

Libby Water Sample & Location  
Field Sample Data Sheet

FSDS # W - 100004

Address Lincoln County Landfill

Date 12-20-12

Property ID AD000196 Logbook # 10/3/10 Pgs 14 Sampler(s) K. Beaulieu, S. Wilson

Data Item	1	2	3
Location ID	SP-113799		
Is this a new Location	Yes <input checked="" type="radio"/> No Revised *If No, go to Visible Vermiculite	Yes <input checked="" type="radio"/> No Revised *If No, go to Visible Vermiculite	Yes <input checked="" type="radio"/> No Revised *If No, go to Visible Vermiculite
Location Type			
Location Description			
Location Area (ft <sup>2</sup> )			
Location Comment			
Sample ID	IR-45180 <del>IR-44818</del> KRB 12-20-12	IR-44819	
Sample Time	1130	1135	
Sample Venue	Indoor <input checked="" type="radio"/> Outdoor NA	Indoor <input checked="" type="radio"/> Outdoor NA	Indoor <input checked="" type="radio"/> Outdoor NA
Sample PrePostClear	<input checked="" type="radio"/> NA Pre Post Clear: 1 <sup>st</sup> 2 <sup>nd</sup> 3 <sup>rd</sup> 4 <sup>th</sup> 5 <sup>th</sup> 6 <sup>th</sup> 7 <sup>th</sup>	<input checked="" type="radio"/> NA Pre Post Clear: 1 <sup>st</sup> 2 <sup>nd</sup> 3 <sup>rd</sup> 4 <sup>th</sup> 5 <sup>th</sup> 6 <sup>th</sup> 7 <sup>th</sup>	<input checked="" type="radio"/> NA Pre Post Clear: 1 <sup>st</sup> 2 <sup>nd</sup> 3 <sup>rd</sup> 4 <sup>th</sup> 5 <sup>th</sup> 6 <sup>th</sup> 7 <sup>th</sup>
Sample Type	<input checked="" type="radio"/> FS <input checked="" type="radio"/> FD Other	<input checked="" type="radio"/> FS <input checked="" type="radio"/> FD Other	<input checked="" type="radio"/> FS <input checked="" type="radio"/> FD Other
Sample Parent ID		IR-44818 KRB IR-45180 12-20-12	
Composite Y/N	Y <input checked="" type="radio"/> N	Y <input checked="" type="radio"/> N	Y <input checked="" type="radio"/> N
Sample/Inspection Aliquots	30 <input checked="" type="radio"/> Other NA	30 <input checked="" type="radio"/> Other NA	30 <input checked="" type="radio"/> Other
Sample Location Description	CDM-MW-08	Dup-1-CDM-MW-08	
Sample Field Comments			

V 110427

For Field Team Completion  
(Initials)

Completed by:

QC by:

For Data Entry

Entered by:

QC by:

Lincoln County Landfill Log Book #101310  
 1-16-13. Groundwater gauging event @  
 Lincoln County Landfill. All Activities  
 performed IAW Lincoln county class  
IV Asbestos Landfill operations plan Feb  
 2008 Rev. 2 CDM smith SOP 4.6, SOP 4.5.  
 18 of Partly Sunny. 2-3" of snow on ground.  
 0907 K. Beaudoin com smith on-site to gauge  
 wells. Coordinated with Randy from  
 arrowhead. The down gradient wells  
 have been opened. Reconnected probe with  
 alconox before & after each use.

Well ID	DTW (feet)
MW-2	165.83
MW-3	203.47
MW-4	156.96
CDM-MW-07	226.10
CDM-MW-08	227.09

1013 off-site

RB  
 1-15-13

